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THE UNIVERSITY OF ALBERTA

UNIT COST ANALYSES OF THE COUNTIES OF LACOMBE AND MOUNTAIN VIEW

by

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ABSTRACT

The purpose of this study was to conduct unit-cost analyses of the County of Lacombe and the County of Mountain View for the school year 1969-1970. The specific problem was to estimate per-pupil costs of various pupil groupings within each county and for each county as a whole. The research was centered around the allocation of these per-pupil costs to each category of a selected functional-character-object-location expenditure model. The most detailed research was done in terms of the direct instructional cost of each of the specific subjects in all specified grades and schools.

The data necessary for the direct instructional costs were obtained through a Faculty Workload Survey sent out to the schools shortly after the start of the second semester. This was verified and expanded by examination of the appropriate school and county records.

The implementary cost data were obtained directly from invoices, ledgers, and other records kept by each of the two counties. Part of the expenditures could not be identified with specific course, grades, or schools. Therefore, proration was required.

Analysis of the data indicated that instructional salaries, which was the greatest single cost, accounted for over 57 percent of the total expenditure. The second and third highest unit-costs were for transportation and school administration. Per-pupil costs increased as the grade levels ascended from division I through division IV.

The most important factor allied with unit costs was the number of students enrolled in a given class. Other important factors were the location of the school with respect to population density,

the length of time of each course, the salary of the teachers, and the floor area of each school.

Expenditures in the implementary portion of the study were most often prorated. These sometimes reflected a bias toward equality as a result of prorating on a per-pupil basis. Implementary expenditures did little, therefore,to change the patterns associated with direct cost expenditures.

Some expenditures allocated to single groupings reflected equilibrium situations. Low expenditure in one functional-character category was complemented by higher expenditure in another category.

The most common expenditure pattern involved low expenditure per division-one pupil, slightly higher expenditure for a division-two pupil, higher expenditures for a division-three pupil, and a much higher expenditure for each division-four pupil.

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Chapter 1

SIGNIFICANCE AND DELINEATIONS

INTRODUCTION

The changing nature of modern society has resulted in great changes in today's schools. Numerous prominent writers in the field of educational administration have analysed and commented on the expanded curriculum and the greater holding power of modern school systems. McLure, writing about American public schools stated:

> In response to demands from our society, schools have enlarged their purposes, activities, size of enrollments and programs . . Some institutional activities which in former days were thought of as fads and frills are considered essential today. Some auxiliary expenses like transportation, health and others are supported entirely from tax resources, whereas formerly they were not a part of the educational budget. (1957:18)

An examination of the changing official curricula in Alberta schools (Alberta, Department of Education, 1969:7), and of the new buildings, facilities, and teachers that are being used to meet the demands of a concerned public for more education of a wider variety, indicates that this phenomenon of growth and change is prevalent in Alberta as well as in other provinces and countries. In some school systems children now start in kindergarten and nursery school. In a few systems (Red Deer, Grande Prairie, Lethbridge, and others) the upper limits of education have been expanded beyond high school to one or two years of technical or junior college work. In general, the range of activities which are considered important in developing com-

petence in occupational skills and responsible citizenship has been getting more extensive in many school systems.

Higher educational costs are an inevitable result of the broader range of activities of the schools. There are many indications that the trend of rapidly increasing costs will continue. Between 1945 and 1965, the estimated average annual increase in costs in Canada was 13.5 percent (MacLeod, 1967:15-19). Hansen predicted that "expenditure in Canada will continue to increase substantially during the 1970's" (1969:1).

The increase in costs has resulted in an increase in interest and concern from the general public. This is evident in the increasing attention paid to educational costs by the mass media, and by government (and other) officials in their public addresses. School officials are constantly seeking methods of evaluating the results of their actions in spending funds for which they are responsible. There are two general demands made on officials. First, the available financial resources must be astutely invested. Second, all educational expenditures must be meaningfully reported to both the educational system and to the public. Both demands imply the utilization of sound and valid financial accounting principles and procedures.

Too often, an analysis of educational costs is limited to comparison between school systems on such measurements as percentage distribution of funds by classifications, average amount spent per pupil, or other unit of expenditure. Such statistics have only face value from which to make inferences about the educational program. They fail to relate important factors in each situation to help explain educational differences.

Unit Cost analysis is an approach which reflects sound financial management and can also insure the maintenance of public support. Mort, Reusser, and Polley point out that accurate analysis is essential to effective control of the educational enterprise (1960: 40). Burke stated that:

> Citizens, taxpayers, and school officials must appraise their expenditures for public schools. They cannot help making comparisons between their outlays now and in the past, and their outlays and those of other communities. (1957:11)

The use of unit cost analyses is most appropriate to the two requirements implied: the management of and the reporting of the expenditure of school funds.

DESCRIPTION OF UNIT COST ANALYSIS

Unit cost analysis is a measure of expenditures for programs, performances, activities, or outputs, based on a standard measurable unit. Fowlkes and Hansen gave a broad definition:

> Cost analysis is the process of studying the total costs of public education for a given community, state, or area, for a given year; trends in total school costs; the costs of specific services or subjects, e.g. elementary school costs, secondary school costs; costs of nonattendance; costs and tax-paying ability; costs and size of school; reasons for increased costs and need for decrease in costs. (1952:471)

For the purpose of this study the "unit" refers to the pupil, and unit-cost analysis refers to the cost per pupil of designated educational programs. The programs are delineated in terms of grade level and content. The cost per pupil per program is the sum of expenditures applicable to that program on a per pupil basis.

STATEMENT OF THE PROBLEM

The major problem of this thesis was to conduct an analysis into the financial operations of each of two school authorities in the Province of Alberta. The September, 1969, through August, 1970, school year was selected for analysis. The study involved two phases: (1) development of a model for uniform cost analysis methodology appropriate to the two school systems, and (2) application of this model to the analysis of educational expenditures in the County of Lacombe and the County of Mountain View for the 1969-1970 school year.

The Sub-Problem.

A number of sub-problems were investigated in this study.

1. What were the educational expenditures per enrolled pupil in the County of Lacombe and the County of Mountain View on the basis of:

(a) cost per pupil

(b) cost per pupil in each grade division

(c) cost per pupil in each school

(d) cost per pupil in each subject

(e) cost per pupil of various programs and routes

(f) cost per pupil according to selected subdivisions of the total expenditures on the basis of the function and character of the expenditure?

2. Further development of efficient and effective techniques to be used in cost analysis, techniques that are less arduous and time consuming and are more accurate and viable than present techniques.

SIGNIFICANCE OF THE STUDY

This study of one of a series being undertaken under the auspices of the Department of Education through the University of Alberta. A letter, written by the Deputy Minister of Education, addressed to the school authorities concerned is shown in Appendix A. The development of planning-programming-budgeting systems provides the basis for these studies as a whole. Unit cost analysis such as represented by this study are a necessary early step in the overall scheme.

Various researchers were allocated various school authorities for study. Examples of centralized rural authorities, with a wide variety of school characteristics and two examples of county organization and operation were provided by the study of the counties of Lacombe and Mountain View. A pilot unit-cost analysis had been completed in the County of Lacombe for the school year 1968-1969. Thus, this subsequent analysis will provide a longitudinal examination of that particular school system.

The composition of school budgets varies considerably among local systems. Better knowledge of the causes and effects of these variations might be helpful to each community in the analysis of its own situation and to the province as a whole in the analysis of the total education system. At present, for the lack of better information, a number of questions go unanswered. These include:

1. On what basis can the amount of expenditures for one category be judged in relation to other categories? For example, how can one judge transportation costs in comparison with instructional costs?

2. Are there limits of expense in some categories beyond which further expenditures will not improve educational results?

3. On what basis can the amount of expenditures for one school, one school system, or one province be compared to those of other schools, other systems, and other provinces?

4. What are the categories in which an increased expenditure is most likely to further greatest educational results?

5. On what basis can economies be judged in each category?

There appear to be two main elements involved in the issue. The first is the difficulty of determining the quality of various schools or educational sub-units. The second, the one examined in this study, is the lack of a valid, flexible accounting procedure which can be used to determine the real cost of any specific program, school, or school system.

The development and application of a unit-cost analysis to each of the two school systems offered a procedure by which the financial input to the school systems can be examined in relevant detail, can be compared to other systems, and can be compared to past and future expenditures in the systems studied. Most important, it can give the appropriate school officials, at the local or provincial levels, a true picture of how the expenditures are actually being used. This enables them to improve both the management of funds and the reporting of these to other levels in the provincial education system and to the general public.

OUTLINE OF THE STUDY

The study is limited to operational expenditures, made in the

County of Lacombe and the County of Mountain View for the school year 1969-1970. Operating expenditures are defined in such a way as not to include debt charges, interest, depreciation, and capital outlay. Only regular day students are included: that is, the study does not take into account the handicapped, community services, or adult classes. Most of the proration statistics, especially for personnel services rendered, were estimated by a direct source, or by the person from which the services were received. There was no consideration given to income but the study does recognize that some expenditure practices have a rationale based on income situations within each county.

The study is limited by the accuracy of the data, the availability of the data, and the amount of related information available for refining, organizing, and checking the data. It, is in fact, one of the values of this study that the limitations of a cost analysis done on the basis of information stored under current recordkeeping practices are indicated. The study is idiosyncratic, appropriate for only the year and the counties in which the study was made.

Assumptions

1. The records from which the necessary data and related information were taken were duly complete and accurate.

2. Any expenditure category that resulted in a per-pupil cost of less than 25 cents was insignificant for the purpose of determining pupil costs.

3. The various estimated functional-character unit costs of education per enrolled pupil are comparable among schools included

in the study. This assumption appears to have been validated by the results of Myroon's study (1969:110-129).

4. Where personal services are concerned the proration of time, in any activity, as stated by the primary source, is an accurate reflection of the actual costs.

5. The methods used to prorate the expenditures will accurately reflect the real use of the moneys involved. This assumption appears validated by the literature in the field and by the nature of the data.

SUMMARY

The rising costs and increased demand for education that has occurred since 1945 have placed increasingly greater emphases on proper management and more adequate reporting of school expenditures. One approach to understanding and control of school funds is the use of unit-cost analysis which permits clear interpretation of expenditure patterns in terms of the specific functions, activities, services, and performances that occur in the schools. The conversion of these expenditures into per-pupil unit costs and the subsequent analysis and examination of the findings, permits comparisons between school systems in both time and place.

The main problem of this thesis was to conduct an analysis into the educational-financial operations of the County of Lacombe and the County of Mountain View for the 1969-1970 school year. Successful attainment of this objective involved (a) development of an appropriate cost analysis model and (b) application of the model to an analysis of the expenditures of each of the two counties.

SUCCEEDING CHAPTERS

Chapter 2 is concerned with the development of the method of unit cost analysis, Chapters 3, 4 and 5 are concerned with the application of this procedure to the expenditures of the Counties of Lacombe and Mountain View. Chapter 3 presents the specific procedures used, Chapter 4 presents the various per pupil costs, and Chapter 5 puts forth the meaningful findings and suggests implications and further research.

Chapter 2

THE RESEARCH DESIGN

INTRODUCTION

There were several reasons why the design of a model which would establish uniform methodology was important. The first was to establish the parameters of the study as well as to specify methods and procedures to be used. The model provided a guide to planning, data collection, data analysis and to other concepts of strategic importance in actually doing the research.

Secondly, the unit costs of one school or system are frequently compared with another. Uniformity was therefore required in prorating procedures, data manipulation, definitions, terminology, classifications, selection of appropriate units, and selection of an accounting system. This was particularly true with respect to this study since it is part of a larger project.

Third, the model insured that this study could be integrated with the field as a whole, and in particular with similar studies done in Alberta schools, past, present and future. The need for uniform terminology and procedures is well recognized. Burke, in discussing cost analyses wrote that uniformity is required in " . . . definitions, terminology and classifications." (1957:121). Knezewich and Fowlkes stated, "Uniformity in prorating procedures is necessary if there is to be any significance attached to unit cost figures for

school systems from within or without the state." (1960:162) and again " . . . there can be no meaningful and comparable data on educational costs among school systems . . . unless there is uniformity in accounting terminology and procedures." (1960:153). Thus this chapter presents the general procedural design used for this unit-cost analysis; a design consistent with uniform standards necessary for unit-cost analysis in other Alberta school systems, and with the major concepts developed by earlier researchers in the field of school finance in general, and with unit-cost analysis in particular.

UNIT COST ANALYSIS MODEL

A valid model or design for meaningful and significant unit-cost analysis has been developed by Myroon (1969:16-41). The following model is consistent with Myroon's in that it follows the same terminology, uses the same classification system, generates the same general prorating techniques, and uses the same accounting system that Myroon used.

Myroon enunciated three distinct phases or stages:

1. Anticipatory preparation, that is the selection of a uniform terminology, and the institution an adequate accounting system complete with uniform classifications and selection of accounting bases (cash or accrual).

2. Procedure for unit costing, including the selection of the proper unit and time period, the establishing of parameters, the determination of costs and the estimate of costs in certain specified areas.

3. The findings and analyses, including the extrapolation of major findings, and the analyses of findings and cost data to make comparisons, predict trends, and draw inferences.

The same three stages were utilized in this study. In the last stage, findings and analyses, some additional attention was paid to the reporting of the findings, both in the study proper and in the release of the findings to appropriate officials and the public.

Phase 1: Anticipatory Preparation

Development of Uniform Terminology The "uniform" nomenclature employed in this study refers to the most common use and meaning of the various terms as employed by the major writers in the field of educational finance. The terminology is uniform in the sense that it is consistent with Myroon's study (1969:18-26), with Atherton's study of junior colleges (1969:6-8), and with other unit cost analyses being completed in Alberta school systems. The following terms and their meanings are central to the study and are listed here to lend precise meaning to their subsequent usage.

1. Costs and expenditures. These terms are frequently used synonymously in educational literature. Johns and Morphet suggest the term "cost" is all inclusive while "expenditure" may be classified as an exclusive term (1952:468). However, for the purpose of this study "costs" and "expenditures" will be used interchangeably to mean that amount of money or that value (expressed in dollars) incurred for any item of property or service.

2. Cost analysis. This term is frequently used as synonymous with unit-cost analysis and cost accounting. In this thesis cost

accounting shall refer to that method of accounting which:

> provides for the assembling and recording of all elements of cost incurred to accomplish a purpose, to carry on an activity or operation, or to complete a unit of work or a specific job. (Reason and White, 1966:229).

Unit-cost analysis or unit-cost accounting attempts to measure how much was accomplished at a given price. (Knezevich, 1967:153). Unit-cost analysis in this study refers to the detailed determination of designated educational expenditures for specific functions, activities, or services; the conversion of these expenditures into unit cost on a pupil enrollment basis; and the examination and analysis of the resultant per-pupil unit costs.

The chief difference between unit-cost analysis and cost accounting is the procedural activity. Cost accounting is a bookkeeping or accounting system which specifies a certain series of procedures for entering and manipulating data pertaining to accrued costs. Unit-cost analysis is a process which makes use of the accrued costs to determine costs per unit (that is per pupil) and the analysis of these.

3. Salary. The total amount which is regularly paid or stipulated to be paid to an employed individual before deductions and inclusive of fringe benefits, for personal services rendered while on the payroll of the school district.

4. Expenses. Expenses are expenditures incurred, other than salaries, by employees for items like supplies, travel, membership fees, indemnities, accident policies, and other insurance, advertising, repairs to supplies, and other related non-salary items that are paid from county funds.

5. Prorating. The allocation of parts of a single expenditure to two or more different accounts in proportion to the benefits which the expenditure provides for the purpose or program area for which the accounts were established (Reason and White, 1957:229).

6. Accrual Expenditures. Accrued expenditures are costs which have been incurred, but as of a given date, have not been paid. (Myroon, 1969:19)

More specific unit-cost analysis terminology is elaborated on in subsequent sections of this chapter.

Accounting System Fowlkes and Hansen felt that one of the values of cost accounting " . . . is that it furnishes a basic for cost analysis" (1952:471). Reason and White (1957) define cost accounting in such a way that it forms the regular accounting procedure upon which the unit-cost analysis can be developed because it provides a category for classification of every expenditure according to its function, purpose, activity, or performance. If the school system was using a cost-accounting system, unit cost analysis would be very straightforward. Since the systems investigated were not using cost accounting, it was necessary to establish a cost accounting system as a preliminary to unit-cost analysis. This was done by allocating the expenditures made by the school system to an appropriate set of separate accounts. Each item was prorated as was necessary to determine the benefits of that expenditure to a specific function or program area.

Expenditure Categories. The basis of a unit cost analysis is a sound cost-accounting procedure and the basis of good cost accounting is "an unequivocal and meaningful classification of expenditures"

(Myroon, 1969:21).

There are many different approaches for categorizing expenditure, the most common being based on the purpose of the payment, the character of the payment, or on the nature of the object or performance identified by the payment.

Myroon, in analysing the various expenditure classifications that have been developed and that were perhaps suitable, came to the conclusion that a performance classification is most useful because it (1) can bring the expenditure categories to a higher degree of correspondence with school objectives (Cutler, 1967:253) and (2) can encompass the other systems of categorization.

Basically, the idea of performance category classification is simple; the expenditures are allocated (prorated if necessary) to the category that defines the result that was anticipated when that expenditure was made. Within that category it is possible to subcategorize in terms of objects or specific performances, in terms of location (for example a specific school or classroom), in terms of unit (a sub-category that meets a defined part of the expected result) or in terms of its functional character (including when and how it was made,expected duration of effectiveness, and to whom it was made). Unfortunately most school systems employ classifications based on things to be acquired such as personal services, supplies, and so on, rather than the work to be done or services rendered. However Myroon states "presently, many progressive school systems are adapting some form of performance classification" (1968:21).

The difficulties of using performance categories are well known and recognized by many writers. Benson, while recognizing the

potentialities of performance budgets and classification, felt the application to education to be difficult because of the problems in classifying activities as well as " . . . difficulty of measuring work units in quantitative terms." (1961:485). Burkhead was more emphatic in his rejection:

> What it comes to, then, is that performance classification based on end products can often create an illusion -- the illusion that proper content and accomplishment can be measured by discrete things done by a government. This is by no means the case. (1964:9)

The three basic problems identified from the above literature are:

1. Identifying the desired results.

2. Establishing classifications that reflect the functions and activities leading to the desired results.

3. Measuring the outputs of the various programs or activities in terms of the desired results.

There are other difficulties of a technical nature, notably the use of prorating techniques, and the complexity of the bookkeeping system. These will be discussed in Chapter 3.

Despite the difficulties cited, the consensus of many of the writers in educational finance seemed strongly in favour of performance or program classifications. The approach was strongly supported by Akerly who stated that it " . . . paints pictures in words that justify the expenditures" (see Linn, 1956:169 and explicated by Gauerke and Childress who stated:

> The development of improved rationality in local decision-making about school expenditures required further consideration of the manner in which schools might detail educational programs, established and projected, in a performance budget, and continued research on the relationship of resource inputs to given

> educational outcomes. Such proposals do not require that the goals of education be dictated by materialistic notions, but only that economic rationality has much to offer in helping to achieve some of the ends of education. (1967:397)

On the basis of the expenditure classifications literature reviewed, a performance classification system as interpreted by Benson and Burkehead was used. Benson (1961:484-500) revealed that performance classifications make use of all systems of classifications including the functional system (purpose of the expenditure), the object system (what was bought), the character system (how the payment was made), and the locations system (where the service or goods bought were used). This system, illustrated in Figures 1, 2, and 3, involved the amalgamation of the concepts of functional-character systems and the location system. The purpose of this approach was to bring the expenditure classifications into close identity with the school objectives.

The difficulties reviewed above were resolved as follows. The "desired results" (page 16) were delineated on the basis of Atherton's justifications. He stated that, "a crude measure of output was considered as completion of a student year in a given program." (1968:9). James and Cronin also discussed results; "performance budget stresses the measurement of the cost and the specific detail of the benefits to be realized from the activities supported. The . . term facilitates a program reviewed . . . " (see Gauerke and Childress, 1967:396).

In light of the statements by Atherton, Ackerly, Cutler, and Myroon, the approach used in this study seemed to be suitable to the purpose. Atherton and Myroon used this approach in studies of a

similar nature.

The classification of the expenditures selected, and the analysis of these expenditures in terms of student output through various subjects, through various grade levels, through various programs, and through various schools, was a performance approach. The resulting analysis corresponded highly with the objectives of the school system, reflected anomalies and disparagies within the expenditure patterns of the system, and offered pertinent financial information that could serve as one base for decision making.

Phase 2; Procedure for Unit Costing.

The procedure established was similar to that outlined by Myroon (1969:42-53) with one notable exception. The data for this study were collected in the months of May and June, before the actual expiration of the school year under study. Most costs for the term under consideration were established, but in some instances the expenditure had to be extrapolated for the remaining period of time. There were four methods used to establish the subsequent costs:

1. When the cost had been established, but had not yet been paid, as in the case of salaries, the cost was assumed to be the same as anticipated. Since most salaries were contracted, these costs would vary only when a teacher or other employee left the service of the county and was replaced by someone at a different cost, or when the employee was not replaced, or when additional employees were hired. Teacher substitute expenditures were recorded in mid-June so any subsequent teacher substitution cost would be a minimum. Similarly , intern salaries were also established in June, after the

period of hiring interns had passed. Only a very small portion of the types of expenditures investigated were not contracted expenditures or were not already recorded.

2. A second method of expenditure extrapolation was based on the assumption that expenditures would be very similar to those from previous years. Such items as utilities and supplies were extrapolated on this basis. In the case of supplies this apparently represented a more accurate estimate of real expenditure than taking the actual figures for June, July and August, 1969, because it was found to be the custom, in both countries, to order supplies in May and June for the following school year. Since payments for such supplies were normally made in June, July, and August, these expenditure records gave a more exact cost for supplies for the 1969-1970 school year than would the records of June, July, and August, 1970.

3. In some cases it was assumed the rate of expenditure was constant over the time investigated. In this case the extrapolation was done by simply multiplying the appropriate time factor by the expenditure up to that time. A typical example of this method would be the estimate of the salary paid to a non-contract employee, or the salary paid in form of "fringe benefits".

4. In a few instances no satisfactory extrapolation could be found. In most cases a study of former expenditure data indicated the mandatory extrapolation method, but in some instances there were insufficient data, or the data did not establish any pattern that indicated the most appropriate way to extrapolate. In these instances the estimated expenditure was based on the plans of the school organization in question, and was arrived at by consultation with the

Secretary Treasurer and his staff. The most notable example was the educational television program in the County of Mountain View. In instances where this occurred the appropriate description of how the data were arrived at is included with the actual data in Chapter 4.

Classification of Expenditures

The actual classification of expenditures was adapted from Reason and White (1957, chap. 3). The presence of a given category in the classification system does not mean that the category was actually used in the analysis of a given county. Category 300 (Health Services), for example, was not used in the County of Lacombe because there were no expenditures made for health services there. In succeeding tables and figures of this study the classification numbers are used rather than the name or description of each category, except in instances where some form of verbal label is used in connection with the classification number in order to facilitate easy reading and understanding of a given table. The specific delimitation of each category is presented immediately after Figures 1, 2, and 3.

In addition to classification of expenditure by functional categories, a classification based on which pupils received the benefit from the expenditure, was also used. Figure 2 illustrates the combining of the two classifications, and also indicates the method of proration used to allocate the expenditure to various pupil groupings. From this basis (function, character, and pupil-grouping) all expenditures were reported on a per pupil basis. The assumption is that each member of a small group of pupils benefited equally from

the expenditure that was allocated to that group. For example, the 24 students in remedial reading in grade 1 in Lacombe Elementary School in the County of Lacombe were allocated $766.80 for direct instructional expenditure. The unit cost was therefore $31.95.

Proration Basis for Each Expenditure As Classified

Many expenditures required no prorating, the actual expenditure was posted in the appropriate category for the appropriate pupil grouping. In part this depended on the pupil grouping under consideration. Thus any expenditure posted to the county grouping required no prorating. In many instances expenditures posted to pupil groupings corresponding to the schools or divisional groupings were not prorated because the school authorities in the county under consideration had already prorated the expenditure. This was the case when the schools or some other grouping was rationed as to the amount of resources they could expend. In some cases the school groupings corresponded to the divisional groupings (for instance a high school corresponds to division IV). These instances required no prorating from the school to the division levels.

The direct allocation of expenditures to a given category or a given pupil category was more accurate than prorating and was thus done whenever data supporting the allocation was available. However, in no case was the expenditure directly allocatable to a given subject grouping, and only very rarely allocatable to a given program.

The expenditures analysed revealed two basic functions. Category 210, direct instructional costs, accounted for about 59 to 60 percent of the total expenditures analysed. All other categories

were implementary, that is those costs which are in support of the main function of the system but are not a direct measure of it. It was possible, of course, to break these implementary costs into several types of implementary costs before further analysis of the functional character of each cost but such a step did not add clarity to the picture of the financial patterns so it was abandoned. The purpose of this study was to identify and examine the functional purpose of each expenditure and then to compare this expenditure to output (number of students completing a given program).

Types of Proration Used. The method of proration selected for use depended on two factors. If the specific county kept records that allocated the expenditures to a given category and pupil grouping, no proration was used for that grouping, but proration was used for smaller groupings within the larger one. This proration was determined by the nature of the expenditure, and by the nature of additional records kept by the county in question. More specific details are given in Chapter III but the general proration techniques and the symbol used to designate each technique in Figure 3 are as follows. These methods are the same as those described by Myroon (1969:43-53) except where direct allocation of actual expenditure was possible.

1. Pupil numbers (PN) is a method whereby the expenditure is allocated on a per-pupil basis by dividing the total expenditure or previously prorated expenditure by the number of pupils that benefited

from it. This method was used in all cases because the unit chosen was a per pupil unit. It was also used to allocate expenditures to various groupings of pupils when the expenditure, over the course of the school year 1969-1970, benefited each pupil in the grouping under consideration to an apparently equal amount. The expenditures allocated on this basis were indivisible, that is there was no way to further prorate the expenditure on some other basis.

2. Time (T) was a method of prorating whereby the actual salary of an employed individual was prorated to the pertinent grouping on the basis of what portion of the total time the employed individual spent with that group. It was also used to allocate portions of various salaries to different categories of expenditure and portions of implementary costs (particularly facilities) to various sub-groupings.

3. Mileage (M) was a method used to prorate bus expenditures to the various groupings with members using that facility. The proportion of the cost allocated was based on the proportion of the total student miles that those members of the grouping actually travelled in the county provided transportation facility.

4. Quantity (S) was a method used to prorate the facilities or supplies to a particular grouping of students where it was possible to determine the amount consumed by that group, the amount consumed by individuals in the group, or the proportion of a total amount consumed by that group. This method of prorating was used when some facet of the organization permitted a direct estimate of the proportion used by a given grouping. It was typically used on a classroom basis for

expenditures incurred by the class using that room. It was also used on an individual basis when a direct ration or fixed amount was allocated to each student by the school authorities in the county.

As pointed out by Knezevich and Fowlkes, "Unit Cost Analysis is more meaningful when based on careful prorating of expenditures". (1960:162). They further suggest that uniformity in prorating procedures is necessary if there is to be any significance to comparative studies. The fundamental purpose of proration is to allocate parts of a single expenditure to different accounts in proportion to the benefits which the expenditure provided to each account. With this in mind, the methods used in this study to prorate expenditures were those which best reflected the actual relationship of the expenditure to the activity for which the expenditure was made. Thus the emphasis was on practicality, validity, and accuracy; an emphasis that helps to ensure uniformity between studies with a comparable emphasis.

> The method of proration recommended in the 1957 USOE financial accounting handbook for local and state school systems is strongly recommended for all school systems. The seven methods of proration recommended in this handbook are based on (1) time, (2) average daily membership or average daily attendance, (3) time-floor area, (4) hour consumption, (5) number of pupils, (6) mileage, and (7) quantities consumed (Knezevich and Fowlkes, 1960: pp.130-138).

The above quotation illustrates some of the possible bases for proration. Myroon used a modified form of this list of methods and this study followed a similar pattern. The modification consisted of excluding those methods not applicable (such as number 2), and combining those methods which dealt with consumption in one form or another. (numbers 4 and 7).

In some cases no evidence existed as to what was the best method to use, or if the method was evident there was insufficient data to implement it. As a last resort a fifth method of proration was used whereby an estimate was made by the member of the county teaching staff, administrative staff, or non-professional staff who was directly responsible for the final allocation of that expenditure. Typically this was used to estimate what proportion of that member's time or resources he estimated had been allocated to a given division or a given school. Specific estimates are shown in Chapter III.

- 100 Administration
  - 110 salaries and fees
  - 120 expenses
- 200 Instruction
  - 210 direct salaries
  - 220 indirect salaries
    - 221 administration
    - 222 clerical
    - 223 guidance
    - 224 substitutes, interns and others
    - 225 bursaries, loans and sabbatical leave
  - 230 indirect expenses
    - 231 texts
    - 232 library
    - 233 supplies
    - 234 equipment
    - 235 science equipment and supplies
    - 236 physical education equipment and supplies
    - 237 industrial arts equipment and supplies
    - 238 home economics equipment and supplies
  - 240 E.T.V.
- 300 Attendance
- 400 Health Services
- 500 Pupil Transportation Costs
  - 510 daily costs
  - 520 sports, extra curricular
  - 530 other extra curricular
  - 540 other curricular
  - 550 summer bussing
- 600 Plant Operation
  - 610 salaries
  - 620 utilities
  - 630 supplies
  - 640 central office
  - 650 others
- 700 Plant Maintenance
  - 710 Plant maintenance of schools
  - 720 grounds
  - 730 non-school
  - 740 furniture
- 800 Fixed Charges
- 1400 Outgoing Transfer Accounts

Figure 1. Functional Categories of Expenditures

Grouping	Description	Symbol
County	Lacombe	Lac.
	Mountain View	M.V.
School	Alix	M.A.C.
	Bentley Elementary	Bentley Elem.
	Bentley Secondary	Bentley Sec.
	Blackfalds	Blackfalds
	Clive	Clive
	Eckville	Eckville
	Lacombe Elementary	Lacombe Elem.
	Lacombe Junior High	Lacombe Jr. High
	Lacombe Composite High	Lacombe Sr. High
	Mirror	Mirror
	Satinwood	Satinwood
School	Carstairs	Carstairs
	Cremona	Cremona
	Didsbury High	Didsbury
	Olds Elementary	Olds Elem.
	Olds Secondary	Olds H.S.
	Midway	Midway
	Reed Ranch	Reed Ranch
	Ross Ford Elementary	Ross Ford
	Sundre	Sundre
Level	Division 1, grades 1 to 3	I
	Division II, grades 4 to 6	II
	Division III, grades 7 to 9	III
	Division IV, grades 10 to 12	IV

Figure 2. Pupil Groupings Used in the Classification of Expenditures and the Symbols Used to Represent That Grouping in Succeeding Charts, Tables and Figures.

Category number	Pupil Groupings					
	Subject	Grade	Program	Division	School	County
100						
110		PN		PN,T	PN	A
120		PN		PN	PN	A
200						
210	T,PN[1]	T,PN	T,PN	T,PN	A	A
220						
221		T,PN		T,PN	A	A
222		PN		T,PN	A	A
223		PN		T,PN	A,PN	A
224		A		A	A	A
225		A		A	A	A
230						
231		E		E	E	A
232		A		A	A	A
233		PN	PN	PN	PN,A	A
234		PN	PN	PN,A	A	A
235	PN	PN	A,E	PN,A	A,E	A
236	PN	PN	A,E	PN,A	A,E	A
237	PN	-	A	A	A,E	A
238	PN	PN	A	A	A,E	A
240			PN	PN	PN	A
510		M,PN		M,PN	M,PN	A
520	A	PN	A	PN	A	A
521		PN		PN	A	A
522		PN	PN	PN	A	A
600						
610		S		S,A	A	A
620		S		S	A	A
630		PN		PN	A	A
640		PN		PN	A	A
650		PN				
700						
710		PN		PN,A	E,PN	A
720		PN		PN,A	E,PN	A
800		PN		PN	PN	A
1400					PN	A

Figure 3. Classification by Functional Groupings and Pupil Groupings Showing Proration Method by Symbol.

PN	Pupil numbers	T	Time	M	Mileage
A	Actual expenditure	E	Best Estimate	S	Size or quantity

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[1] In many allocations of expenditures it was necessary to use more than one proration method, or to use one method for some expenditures and another for another expenditure depending on how complete the records available from the school authorities were.

Description of Expenditure Categories.

The following statements describe each series of the classification of expenditures according to their function. Each category is mutually exclusive ofthe others. This does not represent an exhaustive list of categories, others might be added if different school systems employed different types of personnel or included expenditures with a different function than found in the two county systems under investigation. Indeed, Reason and White (1957, Chap. 3) listed several other series of categories. In analysing the expenditures of the County of Lacombe and the County of Mountain View it was found that some categories included in the Reason and White classification were not included in the present organization of the county system in Alberta or, if they were included, were self supporting and therefore not an expenditure from the view point of the county in question. An example of this latter is "Student Activities" (Reason and White 1957, chap. 3).

The 100 series of expenditures is those for administrative salaries, fees, and expenses that are incurred by persons not in the schools. These include the superintendent's salary (if paid by the county), auditor's fees, legal fees, and those salaries of personnel in the central office who are concerned with administering to the school system (category 110). Their expenses, such as office supplies, travel, and advertising costs are reported in Category 120.

The 200 series dealt with instruction. Teachers' salaries

were category 210. The 220 sub-series dealt with salaries paid to persons in a non-teaching capacity but who dealt directly with instruction. Category 221, for instance, included the administrators' salaries; 222, the salary of clerical help and teacher sides; 223 the salaries of the guidance personnel; 224, the salaries paid to substitutes, interns and others who instructed but were not primarily responsible for the instruction; and category 225 which represented expenditure on behalf of the instructional staff.

The 230 sub-series dealt with expenditures for supplies, equipment and library costs; several important types of supplies were defined in terms of the program they benefited.

Category 240 dealt with educational television (County of Mountain View only).

The 300 series and 400 series were included in the overall classification but were not used. Under the county system the health services were provided by the regional health unit, not by the county. In both counties the attendance services were part of the services provided by the school staff or by the county administrators.

The 500 series dealt with the expenditures toward bussing the students from their homes to school (category 510), for special bus trips taken by various groups of students (sport trips were category 520, curricular bussing was category 521).

The 600 series dealt with expenditures made to keep the schools and other buildings operating during the year. It included janitors' salaries (category 610), utilities (category 620), and other incidental costs in day to day operation of the school plant, central office and other buildings.

The 700 series dealt with maintenance (which was separately considered from plant operation). This series involved the expenditures for repairs to buildings, landscaping, preparations of school grounds, and replacement and repair of school and office furniture. It did not include new construction.

The 800 series included expenditures made by the county school committee of a repetitive, standard, nature over which the school committee had only limited control. These included taxes, insurance, and costs of annual meetings and elections.

The 1400 series accommodated the outgoing transfer accounts. These expenditures were made on behalf of the students from the county in question but attending another school system. This did not include payment for correspondence courses as it was indicated that the courses taken were taken under the jurisdiction of local teachers and that the recipient was largely benefited in terms of supplies.

Summary

This chapter has outlined the procedures used to establish the unit cost analyses of the two counties. These include the development of a system of functional "categories" based on the purpose of each expenditure, cooridinated with a system of grouping categories based on who benefited from the expenditure. This latter was enunciated at various levels of groupings from the single subject through the various grades, programs, divisions, and schools up to the county as a whole. In each case the grouping stood for a clearly definable group of pupils. This chapter also outlined the procedures used to prorate the various costs to the various groupings and the

procedures used to estimate the various costs when the exact expenditure was not obtainable. Both the proration method used and the extrapolation used to determine the size of the expenditure over a school year were only approximate. In all cases it was found better to use actual costs rather than prorated and/or extrapolated costs.

The selection of categories and proration of costs to these categories represented, in essence, the establishment of a cost accounting system. Expressing these costs on a per pupil basis and analysing the various results is a unit-cost analysis. The proration techniques had to be as accurate as possible, but were also chosen because they were equitable and realistic. The use of a computer program to manipulate and store large amounts of data made it possible to use a variety of prorating techniques, often in concurrence with one another, and also made it possible to handle large amounts of expenditure information. The criteria for choosing the proration method to be used were accuracy (use of the method that most accurately reflected the size of the expenditure allocated to each group), equitability (use of the method that most accurately reflected the benefits to each group), and practicality (the method selected was limited by the data available from the school system). The more complete the school and county records, the more accurate this analysis became.

Subsequent chapters detail the procedure used for collection and manipulation of the information (Chapter 3) and the results of this expressed as unit costs (Chapter 4). The final analysis of the data, the conclusions and inferences drawn, and the recommendations for further study are found in chapter 5.

Chapter 3

DATA SOURCES, COLLECTION AND TREATMENT

INTRODUCTION

Phase 2 of this study, briefly outlined in Chapter 2, was concerned with applying the research design model for cost accounting to the financial expenditures for the County of Lacombe and the County of Mountain View. This involved the location of the various data sources, the collection of the appropriate data and the processing of this data to determine per pupil costs.

DATA SOURCES AND COLLECTION

The necessary expenditure data were extracted from the financial accounting statements and records of the County of Lacombe and County of Mountain View. Procuring cost figures for the entire school system was relatively simple and was obtained by consulting the ledger account cards. The determination of costs incurred by each individual school, however, was made difficult because the cost figures entered in the ledger accounts were aggregated and therefore did not reveal individual school expenditure costs. This necessitated, therefore, the utilization of reference invoices, payroll summary sheets, employee summary sheets, primary sources, and the ledger of school accounts. It was also necessary to consult various school operational records such as the "summary of monthly

returns," "school timetables", "registration summary forms" and "A cards". These records were made available through the office of the secretary treasurer and the superintendent. Some records were obtained directly from the principal of the school but these were used to verify existing expenditures, not to establish the expenditure itself.

There was considerable difference in the record keeping practices between the two counties in question. In the County of Mountain View secondary records were kept for most of the implementary expenditures. The costs were aggregated in terms of schools rather than in one total. These records and the help of the staff of the Secretary Treasurer in the County of Mountain View made the evaluation of expenditures much easier. Because this county made it a practice to keep these records, many of the other reports cited above were kept in greater detail. This made it easier to select the best method of extrapolation and proration. It served as an excellent example of how even partial cost accounting can facilitate unit-cost analysis. The following steps in data collection and manipulation refer to the work done in the County of Lacombe because it was here that the higher level of aggregate costs had to be prorated.

Step One

The first step, despite the comments about aggregated costs above, was the employment of the ledger account cards. As stated, the fact that these were aggregate costs made it necessary to involve a second data collection phase: procurement of data from invoices, payroll summary sheets, and employee payroll sheets.

Step Two

Each expenditure entered into the ledger account contained a cross reference number which referred to the invoices from which the expenditure was aggregated. By using invoices, most of the required expenditure data on a school basis were obtained. Although this often proved an exacting task, the alternative of prorating would not yield the necessary accuracy. This step was used in finding expenditure figures for the "supply" categories, the "plant operation" categories, "transportation" categories, and "administration" categories. In consideration of other categories, documents other than invoices were used as a guide to allocation of the expenditures from the aggregated county cost to the school level. The monthly bus drivers' returns were used to find the number of miles travelled and the number of students transported. The other transportation was included on special reports and these were used to allocate the various expenditures to the proper school account. Employee salaries were prorated on the basis of where they worked, information found on the payroll sheets.

Step Three

This step, and subsequent steps, were utilized in both counties.

All employee salary data was extracted from the payroll cards. This third step made it necessary, however, to secure a list of all employees involved either directly or indirectly in educational activities. Each employee salary was placed into one of the functional categories, and where possible, the expenditure allocated to a specific pupil grouping (usually the school level). Teachers' salaries, based

on the same time period as this study presented no problems but most other salaries were based on the calendar year. It was necessary to find the actual salary paid in the last four months of 1969 and add this to the salary paid in the first eight months of 1970 to arrive at the exact annual salary. In many cases the employee had received an increase, often back dated, and care had to be taken to insure that the actual expenditure, including cost of fringe benefits, was actually recorded.

A similar problem was encountered in the case of the aggregate ledger costs; these were based on the calendar year. It was necessary to find the sum for the months September to December (inclusive), 1969, and add this to the sum for January to August 1970.

Step Four

In each county several functional categories were paid extra attention in the records of spending. In the County of Lacombe an allotment system was used to provide some financial control in the areas of supplies, equipment, extra clerical aid, library and reference, and extra bus trips. These records were not exhaustive because expenditures were made in each of these categories that were not charged to the particular school account, but they were useful in determination of to exactly which account a large portion of the expenditures should be allocated. As mentioned before, the County of Mountain View records were kept on a cost accounting system with respect to these and other categories (utilities, maintenance). Step four consisted in examing these records and determining what expenditures could be directly allocated to a school, a divisional level, a

grade, or a program grouping.

This step differs slightly from the procedure established by Myroon (1969:42-45) in that it was made possible by the presence of data not available to Myroon in the study he completed. The criterion here is accuracy. Whatever data, whatever technique; whatever accounting procedures, made the prorations more reflective of the actual costs expended by a given grouping; is the data, technique; and procedures, that were used. Given the same pupil groupings and the same functional categories, this and only this, made it possible to compare separate schools, and school systems in terms of cost analysis.

Step Five

A fifth procedural step in the collection of data was made necessary when it was impossible to determine, from the financial records, the amount of expenditure by each school. Proration was thus involved. The proration standards or ratios were determined by securing the necessary proration statistics from documents or from primary sources. The proration technique varied somewhat for each of the functional categories and varied somewhat between the two counties. The description of the techniques used that follows applied completely to the County of Lacombe and in large part to the County of Mountain View. The reason for the discrepancy is the allocation of expenditures to various categories directly, without the need for prorating. If the expenditures were prorated, in either county, the following is the method that was used. It is appropriate to emphasize once again the desirability of using direct allocations, rather than

the prorated allocation wherever possible. These were not only more accurate but the records also often included information that made subsequent proration more congruent with the actual amounts and benefits each sub-grouping enjoyed. The following methods were employed only when direct allocation was not possible. Categories not included in this list did not require proration from the county to the school level.

Series 100, Categories 110 and 120. The expenditures that were allocated to these categories were in connection with administration salaries and expenses. The primary source (i.e. the salaried person) was asked to estimate what portion of his time was allocated to various divisions, and if applicable to various programs. Salaries were extrapolated on the basis of contracts, expenses were extrapolated on the basis of expenses up to that period of time (method 3, page 19). The prorating techniques were combined; the expenditures allocated were prorated to the division level on the basis of time, in the case of salaries, and "pupil numbers" in the case of expenses. Prorating to groupings other than the divisional groups was on the basis of pupil numbers. In cases where the administration was limited to one particular area (such as industrial arts or reading) the number of pupils reported were those involved in that program.

Series 200, category 210. The following formula was used to prorate the expenditures used in this largest category. The expenditure was extrapolated on the basis of the teacher's contract. Costs were prorated to the subject groupings and subsequently added to find the allocation to larger groupings.

$$\text{Expenditure allocated} = \text{total salary} \times \frac{\text{number of minutes per week teaching the subject}}{\text{total number of minutes per week teaching}}$$

Since this expression is a ratio, any term of time, such as a day or a month could be used if that period of time represented a periodic repetition of the teacher's time pattern. Olds Secondary School operated on a six day "week" but this same formula was applicable. Most of the high schools under consideration operated on a semester system. In this case the total time was assumed to be over the total school year. Mathematically this was equivalent to dividing the time teaching the subject per week by the number of semesters (two). When more than one teacher taught the same subject and pupil groupings (team teaching) the expenditures were added. The expenditure reported in the tables in Chapter 4 was found by dividing this allocated expenditure by the number of students who were affected by that particular program (that is by how many were taught that subject or group of subjects). When two or more teachers taught the same subject the expenditures and the number of pupils were added to arrive at a unit cost for the larger grouping under consideration.

Sub-Series 220. The following formula was used to prorate the expenditures from the school groupings (actual expenditures) to the divisional groupings.

$$\text{Expenditure Allocated} = \text{Total Expenditure Allocated to that School} \times \text{Percentage of Time Reported in Each Division}$$

Each of the personnel who worked with more than one grouping of students was asked to estimate the percentage of time spent with each group. In instances where there were still smaller groupings

within the larger group for which the time had been estimated, the expenditure was allocated to the smaller group on the basis of pupil numbers. As an example, consider the expenditures found in the administration category (221). These were allocated to a given school on the basis of records kept by the county, allocated to a given division on the basis of the administrator's estimate of what portion of the time he spent with each division (the formula), and allocated to the grade grouping within that division on the basis of the number of pupils in that grade as compared to the total number within the division. No attempt was made to prorate the expenditure to subject groupings or program groupings (other than grades) because no method was available to prorate to these groupings in a realistic, equitable fashion. Some consideration was given to prorating the division expenditure to the class grouping by dividing the expenditure by the number of classes. However the work of the administrator depends on the number of pupils involved, not on how many classes they were divided into. This second method was therefore not used. It is interesting to note, however, that either method of prorating would yeild substantially the same result; largely because in most schools every effort was made to keep classes at nearly equal enrollment.

A similar method was followed in prorating the salaries of clerical and guidance personnel (categories 222 and 223). Substitute teachers were of benefit to the school as a whole (particularly since most schools were departmentalized) and were not prorated to groupings smaller than the school except on a per pupil basis. Intern teachers were found to benefit the county as a whole because the school in

which they interned was not likely to be the school in which they would eventually teach. Allocation for expenditures of interns salaries were not prorated to any grouping smaller than the county except on the basis of pupil numbers.

Other expenditures made to school personnel (category 225) were also considered to benefit the whole county (not any specific smaller grouping). There were two exceptions. These were temporary teacher salaries and bonus salaries paid for the teaching of special classrooms such as opportunity rooms. In these two cases the expenditure was allocated to category 210 NOT the 220 series.

Sub-series 230. This sub-series involved expenditures made for supplies. In each case the expenditure was allocated to the smallest grouping for which records were kept by the county in question. Subsequent allocation to smaller groupings was done on the basis of the proportion of the total number of pupils in the smaller grouping as compared to the total number of pupils in the larger grouping.

One category, text books (231), was unique in that the county recovered most or all of the expenditure from the students. Therefore both the net expenditure (if any) and the gross expenditure was shown in the tables.

Category 240, educational television. The expenditures reported in the tables in Chapter IV represent only the costs to the County of Mountain View, not to other agencies, and not the costs borne by the provincial government under the School Foundation Plan. The cost to the County represented about 34% of the entire cost (not including facilities, donated by commercial firms, for which there

was no estimate of cost).

The County of Mountain View keeps its records in such a way that the cost of expensive equipment is allocated to capital expenditures. This has not been done in this analysis -- all equipment is included in evaluating the expenditures made for educational television.

The proportion of the 1969 costs and the estimate of the 1970 costs was done on the basis of data presented by the Secretary Treasurer. The program was severely curtailed in January 1970. A move toward video tapes (as opposed to broadcasting) was inaugrated. Despite this curtailment the County expenditure in 1970 increased over 1969 because many of the grants were also curtailed. Appendix B contains a more complete detailing of these costs. The Secretary estimated the portion of the 1969 expenditures used in the months of September to December inclusive to be about 15 percent of the total 1969 expenditures. He also estimated the portion of the 1970 expenditures used during the months of January to August inclusive to be 85 percent of the total expenditure for the 1970 year. These estimates were then used to find the total estimated cost for the 1969-70 school year.

Prorating the expenditures of the educational television program on the basis of pupil numbers seemed the only equitable and practical approach. The cost of any one "broadcast" to one school could be determined, but a survey of the records of the broadcasts indicated that they were used at all levels in all schools and in all subject areas. There was no apparent emphasis on any one type of program, nor was there any indication of how many pupils benefited

from any particular broadcast. These observations, and particularly the limitations implied in the last one, were the basis for the decision to prorate the total educational television expenditure on the basis of pupil numbers to any given school or other pupil grouping.

Series 500. Category 510. Transportation costs were prorated from the county aggregate expenditure to the grade groupings in each school. Division and school expenditures were found by adding the appropriate grade grouping expenditures. The total mileage travelled by all the busses in the county was founds. Each bus travelled a portion of this total and each student on that bus made use of this portion in direct ratio to the number of students on the regular bus route. The formula used to express the two proportions was as follows:

$$\begin{array}{l}\text{expenditure}\\ \text{allocated}\end{array} = \frac{N_s}{T_s} \times \frac{N_m}{T_m} \times \begin{array}{l}\text{total aggregate}\\ \text{expenditure}\end{array}$$

N_s is the number of students in that grade grouping riding a given bus. T_s is the total number of students riding that bus. N_m is the total number of miles travelled by that bus in transporting the students indicated by N_s. T_m is the total number of miles travelled by all buses in the county on their regular, daily bus routes. The "expenditure allocated" is the expenditure for the grade grouping under consideration as related to the bus under consideration. To find the total expenditure allocated to any given grade grouping it was necessary to add the expenditures allocated by each of the bus accounts.

Series 500. Categories 520 and 521. The transportation costs

for county were allocated to sub-groupings on the basis of actual cost for a sub-grouping (dependent on the amount of detail available in the records) and prorated to smaller groupings on the basis of pupil numbers, that is the proportion of the number of pupils found in any smaller grouping was the same proportion used to allocate the expenditure. In most instances this meant that the actual cost was allocated to the school account and prorated to the division account.

Series 600, Category 610. The records, payroll sheets and invoices were sufficiently complete, in both counties, to assign actual expenditures to each school account. Interviews with several custodians and with the school officials responsible for supervising the operation of the school plant revealed that the larger portion of time and other resources was expanded on the "common areas" of the school, specifically the halls, washrooms, and specialty areas. This portion of the school plant was used by any or all of the students. It was therefore decided that prorating should be done on the basis of pupil numbers. However most school included only one or two divisions and when there was more than one division the school was often divided into more than one building. Consequently very little prorating was actually done; in the main, actual costs were used.

Category 620, Category 630. In prorating these categories actual expenditures were assigned to the various schools and pupil numbers were used to prorate the expenditures to smaller pupil groupings.

Category 640. The expenditures made to operate other buildings in the school unit were prorated on the basis of pupil numbers. It

was difficult to decide what the expenditure actually was when the building was shared with the municipal portion of the government. In this case the approximate floor area used by each was used as a basis to evaluate the operational costs.

Series 700. In the County of Mountain View the records were kept on the basis of maintenance cost for each school. This expenditure was further prorated on the basis of pupil numbers. In the County of Lacombe the maintenance costs were aggregated. It was necessary to consult the maintenance foreman as to the relative cost of maintaining each separate plant. After some discussion the following formula was devised to prorate maintenance costs from the aggregated county level to the school level.

$$\text{expenditure allocated} = \frac{N_s}{N_c} \cdot \frac{D}{A} \cdot \frac{E}{1}$$

The expenditure allocated refers to the expenditure allocated to a school account. The meanings of the other symbols are as follows:

N_s refers to the number of pupils in the school.

N_c refers to the total number of pupils in the county.

D is a rating of the difficulty of maintaining that particular school. It is based on a factor of 1, assigned to the school that was judged the easiest to maintain. The other schools were each assigned a difficulty rating based on the age of the school, the condition of the school, the frequency of repairs due to extensive use or vandalism, and the difficulty of making repairs from the central repair shops in Lacombe. The highest difficulty rating was two.

"A" refers to the average of the difficulty ratings. The combination

of the last two factors introduced a variable into the formula that makes it more reflective of the actual situation than merely using a prorating method based on pupil numbers.

"E" refers to the aggregated county expenditure.

Step Six.

The largest task in the collection of the necessary data was compiling the "Faculty Workload Survey." The information procured for this portion of the study consisted of the name of the teacher, school (s) taught in, salary including benefits, subjects taught, release time, time spent per course, percent of time per course, and pupil enrollment per course. The benefit portion of the "salary", temporary teachers time and salary, and a check of missing or suspect data was procurred directly from central office records, primarily from the 'A' cards, school time tables, and payroll ledgers. The bulk of the information was obtained directly from the teachers themselves (with the active co-operation of the Superintendents and Principals). The questionnaire used is shown in Appendix C. This task was further complicated in the County of Lacombe because the teachers' salary schedule was still in negotiation until mid-June. It was necessary to obtain the agreed-upon salary schedule, calculate each teacher's salary and assign the calculated salary to the appropriate ledger entry. This was done on the basis of the reported training and experience obtained from each teacher. In the County of Mountain View the salary negotiations had been completed, and individual salaries calculated, but it was still necessary to enter each salary in terms of the assigned number of each teacher.

An additional problem arose in determining the amount of salary allocable to instruction and to non-teaching activities of administrators. A distinction had to be made between actual teaching time as opposed to actual administrative time. Administrators, in the County of Mountain View were paid on the basis of the teachers' salary grid as well as an additional administrative allowance based on the number of teachers. In Lacombe, the administrators were paid a bonus based on their number of years of experience as an administrator and the number of pupils in each school. It is false to assume that the administrative allowance is the actual cost allocable to administration. Therefore, the actual administrative cost and instructional cost had to be determined. The methods used in making these calculations are shown in Appendix D. The methods are an adaptation of those developed by Percevault (1964:23-25).

Step Seven.

The data collected was coded and listed on special punching forms. These were then used to transcribe the data to punch cards suitable for computer analysis. Special programs were selected, modified, and when necessary, completely written, to manipulate this data in the manner indicated by the prorating techniques discussed, to allocate the expenditures to the various groupings, report the expenditure on a total basis for each grouping, and report the per-pupil expenditure for each grouping. The "print outs" from the

computer analysis were then copies into table form.[1]

SUMMARY OF CHAPTER 3

The procedure developed by Myroon (1969:55-72) was followed in this thesis. Because the data was collected before the end of the period of time under analysis it was found necessary to extrapolate some of the expenditure findings. The procedures used to accomplish this were described, the criterion for choice of a given procedure being accuracy of the extrapolated finding. In most cases an analysis of the expenditure under consideration clearly indicated what procedure should be used. If no clear choice of procedure was evident the extrapolation was based on the expertise and knowledge of the local school authorities.

The proration techniques used were similar to those proposed by Knezevich and Fowlkes (1960:162-166) and by Myroon (1969:55-72) except that it was found possible to make more use of actual expenditures as reported by the various records of each of the two counties.

Collecting and treatment of data varied from those methods established by Myroon in that the large bulk of it made it mandatory to use a questionnaire, and to use a computer to manipulate and store the information.

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[1] The program used to analyse the faculty work load survey was written by Hawley (1970) and only slightly modified to accommodate larger amounts of data and slightly different coding procedures. The other programs written to analyse the remaining data are not reported here. They were simple, straight forward programs, written by the writer of this study in Fortran IV for an IBM 360/67 computer.

Chapter 4

ORGANIZATION AND ANALYSIS OF DATA

INTRODUCTION

This chapter has two major purposes. The first is to outline the way in which the data are organized for presentation and the second is to present an analysis of that data.

The data and analysis of the data are presented in four parts. The first part reflects the scene and the situation which was actively researched. It includes some demographic data and some gross financial data, all of which are pertinent to subsequent analysis of the more detailed data collected.

The second part of the analysis is made on the basis of the function and character of the expenditure and is presented on the basis of pupil groupings at the county, at the school, and at the divisional levels.

The third part of the analysis is a further examination of one series of expenditures, the direct instructional cost. This largest of all expenditure series is presented on the basis of smaller pupil groupings -- the pupils in any given subject or course.

The last part of the analysis is a combination of the second and third. This part shows how any grouping of subjects (that is a program) may be costed by combining the expenditures from the appropriate sectors of the other two analyses. It also reflects the

complexity of the interwoven programs found in the two systems and indicates the need for clarification in defining programs, in costing programs and in reporting on the cost of a given program.

ORGANIZATION AND ANALYSIS OF DEMOGRAPHIC DATA

These were data obtained from the central office records of each of the two counties, in part from the Superintendent's files and in part from the annual report presented by the Secretary Treasurer. The data pertain to the organizational aspect of each school in the counties and to some characteristics of the instructional staff within that organization. The mean expenditure for salary cited did not include expenditures for administration. The mean of teacher training and mean of teacher experience included those teachers who were part time administrators but did not include those administrators who did not teach. The number of pupils cited referred to those pupils registered in regular full-time day courses, but not those students (mostly adults) who took evening courses. It was noted that evening courses were financially self-sustaining in both counties.

Analysis of Data.

Analysis of Table 1 revealed the following patterns.

1. Secondary schools tended to have higher levels of teacher training than elementary schools. The highest mean level of training was found in Lacombe Composite High School at 4.17 years beyond matriculation, closely followed by Didsbury High School at 3.97 years of training beyond matriculation.

2. The mean expenditure on teacher salary was parallel to

the mean years of teacher training and was similarly higher for secondary schools. Lacombe Composite High School was highest in both categories, Lacombe Elementary School was lowest in both categories.

Table 1

MISCELLANEOUS DEMOGRAPHIC AND FINANCIAL DATA

School	Number of Pupils	Grade Levels	Teaching Positions	Teacher Training	Teacher Experience	Average Salary
Lacombe Elem.	761[c]	1-6	35	2.17[a]	11.2	$6882[b]
Lacombe Jr. High	386	7-9	20	3.30	6.35	6665
Lacombe Sr. High	565	10-12	35	4.17	11.2	9325
Clive	186	1-9	10	3.01	9.5	7635
Blackfalds	285	1-9	13	3.08	14.15	7672
Satinwood	107	1-8	6	3.48	7.83	7782
Eckville	465	1-12	26	3.05	8.46	7551
Mirror	224	1-9	11	2.58	12.55	7381
M.A.C.	399	1-12	20	3.50	12.50	7692
Bentley Elem.	234	1-6	12	2.62	13.08	7605
Bentley Sec.	245	1-12	15	3.63	5.87	6255
Didsbury	436	7-12	25	3.97	10.54	$8290
Carstairs	635[c]	1-12	31	3.73	9.77	8318
Olds Elem.	767[c]	1-6	28	2.49	11.14	7362
Olds High	684	7-12	35	3.85	8.86	7940
Sundre	799[c]	1-12	37	2.96	12.05	7576
Cremona	404	1-12	22	3.15	9.41	6959
Reed Ranch	84	1-8	4	2.82	6.25	7016
Midway	78	1-8	4	2.85	11.00	7329
Ross Ford	488	1-6	20	3.12	6.70	7575
County of Lacombe	3857	1-12	203	3.17	10.3	7585
County of Mountain View	4365	1-12	206	3.31	9.12	7726

[a] The information in this column is the mean number of years of teacher training beyond senior matriculation.

[b] This represents the mean salary expenditure for each teaching position in that school expressed in dollars.

[c] This figure included student in an opportunity room.

3. There seemed to be little relationship between mean teacher experience and either mean expenditure on salary, or the grade level of instruction of a particular school. Indeed, closer analysis of mean levels of experience showed this series of data to be misleading. Often one or two teachers with a high number of years of experience would bias the mean toward a high level of experience when, in fact, the majority of the staff were relatively inexperienced. Furthermore, the expenditure for direct instruction was based on the first eleven years of teaching experience but not on additional years. Therefore basing an analytical pattern on mean experience was not justified. The data were applicable for an analysis of each teaching position as shown in subsequent charts but were not used as a group.

4. The County of Mountain View had fewer schools (9) than the County of Lacombe (11), but had more pupils (4365 as compared to 3857). Further examination of the relationship of pupil numbers to schools revealed that the County of Mountain View had a more even pupil density and that the schools were located, for the most part, in central locations. The County of Lacombe, on the other hand, had schools located near the edge of the county (M.A.C., Eckville and Satinwood) and these as such, were not centered in the midst of pupil populations. A concurrent factor was the relative geographical shape of the counties. Mountain View is square; Lacombe is a narrow, somewhat crescent-shaped county. This latter geographical relationship was reflected in both the school populations and the length of the bus routes.

5. The pupil-teacher ratio was 19:1 in the County of Lacombe

and 21.1:1 in the County of Mountain View.

6. Secondary schools tended to have a lower pupil-teacher ratio than elementary schools, particularly Lacombe Composite High School (11.03 to 1) and Olds Elementary School (27.3 to 1). These ratios include administrators.

ORGANIZATION AND ANALYSIS OF THE FUNCTIONAL-CHARACTER EXPENDITURES

Organization.

The per-pupil expenditure series were realized by analysing the county invoices and vouchers for the period July 1, 1969, to June 30, 1970. When available information was not completed for the school year, the data were extrapolated according to the various methods outlined in Chapter 3.

Not all expenditures could be identified with particular schools, or with particular grade-levels; proration was therefore necessary. The proration methods have been reported in Chapter 3.

After the final figures for each school and divisional level had been obtained, they were organized in chart form. Table 2 shows the cost per pupil for the schools in the County of Lacombe. This table and the nine similar subsequent tables shows the estimated expenditure by categories. The categories chosen are described in Chapter 2. In these tables a number and brief label were used to designate each category.

The expenditures incurred were reported in two ways, the total expenditure and the expenditure per pupil. The expenditures were additive and total expenditures are given both by school and by

Table 2

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($) Lacombe Elem.	Lacombe Jun. High	Lacombe Sr. High	Clive
110	Administration [a]	8,290 (10.88) [b]	4,200 (10.88)	6,150 (10.88)	2,021 (10.88)
120		3,985 (5.40)	2,093 (5.40)	3,081 (5.40)	1,002 (5.40)
210	Direct Instructional costs.	244,000 (320)	135,200 (350)	333,000 (580)	77,354 (414)
221	Instructional	19,560 (25.70)	16,913 (43.81)	37,372 (67.82)	5,581 (30.00)
222	Costs	3,420 (4.49)	3,196 (10.20)	14,856 (26.35)	1,828 (9.84)
223		938 (1.22)	3,890 (10.07)	10,265 (18.30)	155 (.83)
224	Non-Teacher	2,610 (3.42)	1,020 (2.64)	1,440 (2.55)	930 (5.00)
225	Salaries	2,210 (2.90)	1,122 (2.90)	1,640 (2.90)	539 (2.90)
231	Texts	459 (.60)	360 (.93)	760 (1.34)	141 (.76)
232	Library	10,190 (13.38)	9,820 (25.45)	10,820 (19.15)	1,980 (10.65)
233	Gen. Supplies	3,680 (4.84)	6,934 (17.96)	22,300 (39.46)	2,062 (8.78)
234	Equipment	2,408 (3.42)	2,300 (5.95)	4,748 (8.42)	925 (5.00)
236	Phys. Ed. [c]	570 (.75)	386 (1.00)	565 (1.00)	155 (.83)

a. Descriptions here are not intended to be comprehensive. They are only a label to guide the reader. Comprehensive descriptions of each category are given on page .

b. The figure in brackets represents the cost per pupil in that school.

c. Totals are given at the end of this table.

Table 2 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Lacombe Elem.	Lacombe Jun. High	Lacombe Sr. High	Clive
510	Bussing	39,374 (5170)	22,558 (58.50)	45,218 (80.20)	20,248 (109.00)
520		219 (.29)	1,046 (2.70)	2,151 (3.80)	345 (1.85)
521		425 (.75)	169 (.44)	333 (.44)	240 (1.29)
610					
610	Plant Op.	17,266 (22.69)	12,835 (33.25)	35,647 (63.00)	5,380 (28.92)
620	Utilities	7,862 (10.33)	5,158 (13.36)	21,762 (38.52)	3,342 (17.97)
630	Supplies (Jan.)	3,280 (4.31)	1,654 (4.31)	2,437 (4.31)	802 (4.31)
640	Central Off.	715 (.94)	358 (.93)	520 (.92)	162 (.87)
710	Maint.	13,150 (17.28)	8,000 (20.72)	8,150 (14.42)	4,280 (23.01)
800	Fixed Costs	662 (.87)	336 (.87)	492 (.87)	162 (.87)
TOTALS	Direct Costs	244,000 (320)	135,200 (350)	333,000 (580)	77,354 (414)
	Implementary	141,273 (186)	105,068 (270)	230,641 (422)	52,280 (280)
	All Costs	385,273 (506)	240,368 (620)	563,642 (1002)	129,635 (694)

Table 2 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Blackfalds	Satinwood	Eckville	Mirror
110	Admin.	3100 (10.88)	1163 (10.88)	5060 (11.63)	2440 (10.88)
120		1479 (5.40)	584 (5.40)	2530 (5.40)	1187 (5.40)
210	Inst.	100820 (353)	47400 (470)	201000 (430)	82200 (366)
221	Indirect instruction costs. Non-teacher salaries.	8911 (32.00)	2656 (24.90)	17492 (37.60)	8666 (38.80)
222		2073 (7.68)	527 (5.00)	4240 (9.11)	1468 (6.55)
223		250 (.91)	101 (.94)	7165 (15.56)	257 (1.14)
224		480 (1.68)	170 (1.59)	1990 (4.28)	810 (3.62)
225		826 (2.90)	310 (2.90)	1350 (2.90)	650 (2.90)
231	Texts	212 (.75)	77 (.72)	464 (1.00)	171 (.76)
232	Library	6070 (21.31)	2000 (18.70)	11950 (25.69)	4660 (20.78)
233	Gen. Supplies	1010 (3.84)	1010 (9.46)	4450 (9.56)	1850 (8.28)
234	Equipment	1500 (4.74)	600 (5.60)	2400 (5.15)	1360 (6.06)
236	Phys. Ed.	233 (.82)	86 (.80)	319 (.69)	189 (.85)

Table 2 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Blackfalds	Satinwood	Eckville	Mirror
510	Bussing	7945 (28.85)	15065 (141.70)	37334 (80.30)	19827 (88.50)
520		321 (3.91)	142 (1.33)	2405 (5.26)	459 (2.04)
521		----	120 (1.12)	675 (1.45)	322 (1.43)
610	Plant Op.	7064 (24.78)	4040 (37.75)	19861 (42.71)	5640 (25.17)
620	Utilities	2184 (7.66)	2347 (22.00)	5292 (11.38)	4483 (20.01)
630	Plant Supp.	1228 (4.31)	458 (4.31)	2005 (4.31)	965 (4.31)
640	Central Off.	272 (.96)	116 (1.08)	431 (.93)	210 (.97)
710	Maintenance	6580 (23.90)	1850 (17.29)	8050 (17.31)	2580 (11.52)
800	Fixed Costs	248 (.87)	93 (.87)	702 (.87)	195 (.87)
Totals	Direct Costs	100820 (353)	47400 (470)	201000 (430)	82200 (366)
	Implementary	51986 (188)	33515 (314)	135865 (293)	58389 (260)
	All Costs	151726 (571)	80212 (784)	332211 (723)	139482 (626)

Table 2 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		M.A.C.	Bentley Elem.	Bentley Sec.	County Totals
110	Administration	4,350 (10.88)	2,542 (10.88)	2,661 (10.88)	41,977 (10.88)
120		2,140 (5.40)	1,212 (5.40)	1,320 (5.40)	20,613 (5.40)
210	Instruction	155,847 (347)	92,500 (396)	95,000 (388)	1,564,321 (405)
221	Indirect	16,160 (40.45)	8,105 (34.64)	11,172 (45.60)	152,588 (39.50)
222	instructional	4,515 (11.31)	955 (4.08)	4,311 (17.59)	42,103 (10.90)
223	costs.	7,661 (19.15)	290 (1.24)	6,981 (28.50)	37,953 (9.80)
224	Non-teacher	1,440 (3.61)	1,500 (6.41)	920 (3.76)	13,310 (3.46)
225	salaries	1,161 (2.90)	680 (2.90)	712 (2.90)	11,200 (2.90)
231	Texts	444 (1.11)	158 (.67)	278 (1.13)	3,524 (.92)
232	Library	8,580 (21.50)	3,560 (15.53)	4,640 (18.93)	74,270 (19.40)
233	Gen. Supplies	3,262 (8.19)	1,370 (5.86)	1,950 (7.97)	49,878 (12.90)
234	Equipment	3,271 (8.20)	1,040 (4.45)	2,280 (9.30)	22,832 (6.15)
236	Phys. Ed.	364 (.91)	178 (.76)	245 (1.00)	3,290 (.93)

Table 2 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		M.A.C.	Bentley Elem.	Bentley Sec.	County Totals
510	Bussing	36,698 (91.75)	10,875 (46.55)	22,622 (92.30)	277,764 (71.15)
520		1,086 (4.54)	———	1,435 (5.85)	9,609 (2.48)
521		876 (2.19)	146 (.62)	146 (.60)	3,452 (.89)
610	Plant Op.	10,104 (25.32)	7,142 (30.52)	7,142 (29.15)	132,121 (34.20)
620	Utilities	5,879 (14.73)	3,396 (14.51)	2,805 (11.45)	64,510 (16.20)
630	Plant Supp.	1,724 (4.31)	1,010 (4.31)	1,110 (4.31)	16,673 (4.32)
640	Central Off.	395 (.99)	218 (.93)	222 (.91)	3,619 (.94)
710	Maintenance	9,200 (23.06)	3,375 (14.42)	7,050 (28.78)	72,265 (18.50)
800	Fixed Costs	348 (.87)	203 (.87)	212 (.87)	3,353 (.87)
TOTALS	Direct Costs	155,847 (347)	92,500 (396)	95,000 (388)	1,564,321 (405)
	Implementary	119,650 (300)	47,955 (205)	80,214 (327)	1,056,904 (274)
	All Costs	269,780 (634)	140,355 (601)	175,214 (605)	2,621,225 (679)

category. The expenditure per pupil was not additive but a unit cost is given for each school and each category. This latter figure represented the total expenditure as divided by the number of pupils in that school or in the county as a whole.

The last column, headed by the term "County Totals", expresses the total expenditure and the per-pupil or unit expenditure assigned to each category. The latter was found by dividing the number of pupils in the county into the total expenditure reported for that category. It gave an average county cost and permitted easy comparison between each school and the average of all schools in the county. It also permitted convenient comparison between two counties and between one county at this time and some subsequent, or previous, time.

The total of all the expenditures for each school is subdivided on the basis of Direct Instructional Costs (category 210) and all other expenditures. These latter are grouped under one term, "Implementary." This is also done for the county as a whole.

Analysis of the Functional-Character Expenditures of the County of Lacombe.

Analysis of the total amount spent in each category showed that expenditure for direct instruction, that is salaries for teachers, came to 59.7 percent of the total expenditure. The next largest category was expenditures for daily transportation (10.5 percent). Two other categories; expenditure for administration within each school, and expenditures for plant operation (including custodial salaries), accounted for 5.9 percent and 5.03 percent of the total expenditures. Of the remaining categories, expenditures on library

and audio-visual materials, and expenditures on plant maintenance, accounted for 2.86 and 2.77 percent respectively. The other categories were increasingly small. Supplies for physical education accounted for less than .1 percent. For the county as a whole, an expenditure of $6.80 per pupil represented about 1 percent of the total expenditure.

The expenditure in some categories was prorated to each school on a per-pupil basis. These categories included expenditures for central office; expenditures for administration (other than administration within each school); expenditures for bursaries, loans, and sabbatical leave; and expenditures for fixed costs. Such expenditures did not reflect any difference among the per-pupil costs in each of the schools or among the unit costs according to the various pupil groupings based on grade level.

Direct Instructional Costs, the category number 210, showed considerable difference both among the schools, and among the grade levels. This particular category is examined more fully in the next section of this work.

Categories 221 to 225 inclusive, reflected expenditures made to assist instruction. These included school administrative costs, and the expenditures allocated to receive the services of a variety of para-professionals. After administrative expenditures (5.90 percent of the total cost), the largest sums were expended on clerical assistance (category 222 represented about 1.6 percent of the total expenditure).

There was a noticeable increase of administrative expenditures

Table 3

PERCENTAGES OF TOTAL COST

By Category				By School		
Category Number	Percentage	Category Number	Percentage	School	Direct Cost Percentage	Implementary Cost Percentage
110	1.60	234	.838	Lacombe Elem.	9.30	5.37
120	.785	236	.08	Lacombe Jun. High	5.14	4.00
210	59.7	510	10.5	Lacombe Sr. High	12.70	8.76
221	5.90	520	.364	Clive	2.95	2.00
222	1.60	521	.772	Blackfalds	3.82	1.98
223	1.47	610	5.03	Satinwood	1.79	1.27
224	.50	620	2.44	Eckville	7.67	5.18
225	.427	630	1.64	Mirror	3.14	2.23
231	.134	640	1.38	M.A.C.	6.95	4.54
232	2.86	710	2.77	Bentley Elem.	3.50	1.83
233	1.91	800	1.27	Bentley High	3.62	3.06

Source: Table 2

among secondary schools, particularly the high schools. This occurred for several reasons. Overall, the qualifications of the secondary school-administrators were somewhat higher than the elementary-school personnel. Since a portion of their salary was based on training, their salaries tended to be higher and the expenditure was higher. Second, the secondary-school administrators spent less time teaching and more time in administration, hence the portion of their total salary allotted to administrative expenditures was higher. Third, the system of paying administrators in the County of Lacombe gave some weight to secondary administrators. The cost per student varied expenditure for books and audio-visual materials (but not equipment). The unit expenditure at Clive School was the lowest at $10.65. This was largely accounted for by the fact that the librarian was not a teacher-librarian and was drawing a considerably lower salary than librarians at other centers. The expenditure tended to increase with the amount of time the librarian spent in library duties and with the salary paid the librarian. The allotment system used to purchase books gave more weight to secondary-school students, and other factors being equal, resulted in a higher per-pupil expenditure in the schools with a large majority of secondary school students. The highest unit expenditures were made in the Eckville School ($25.49), the lowest at Clive School ($10.65). The county average was $19.40.

The unit cost for supplies and equipment (including repair of equipment) reflected considerably higher expenditures on behalf of those students in the Lacombe Composite High School ($48.88 total). Most of the other expenditures to the other schools were close to the county average of $19.98. These expenditures are shown in category

numbers 233 (general supplies), 234 (equipment and repair of equipment) and 236 physical education supplies).

In the consideration of the expenditures made for supplies and equipment it was more satisfactory to examine these three categories as a single grouping. There were several reasons for this. Supplies and equipment are often used for a variety of purposes and as such were difficult to allocate to any given category. Furthermore there was no clear cut distinction between supplies and equipment. For the purposes of this study an arbitrary limit of $25.00 for any one item was described as the upper limit for supplies and expenditures for items more expensive than that amount were classified as equipment. This was a purely arbitrary distinction and did not always provide a clear separation among the categories.

Within the single category of supplies, no effort was made to further designate the expenditures in a functional-character manner because too often any given supply (for instance science supplies) was also available and used in some other field (particularly social studies). Similarly, supplies used in the general field of industrial arts were also used in arts and crafts, in science, or even in physical education.

A further problem was particularly evident in this field. Many supplies (and some equipment) were re-sold by the school to which the expenditure was allocated as such did not, in fact, represent a clear expenditure. The delimitations of this study preclude discussion of income but it is pertinent here to indicate that the figure of $48.88 per pupil for supplies as quoted for the Lacombe

Composite High School (to mention just one example) represented a gross expenditure and did not reflect net expenditure. Appendix E includes some income information to provide a more balanced evaluation of this expenditure.

Category 510 (expenditure for daily transportation) was a large one at 10.5 percent of all operational expenditures and one that revealed a wide discrepancy in per-pupil expenditure designated to the various schools. Examination of the data revealed that the factors resulting in a higher expenditure were (in order of importance):

1. A large percentage of the pupils were transported to school.

2. The use of longer bus routes was common.

3. The existence of double bussing or some other reason for a large number of "dead miles" (no pupils) travelled by a given bus.

The highest expenditures were found at Satinwood school, a situation where most of the students were transported and where the bus routes were long. The unit cost was $141.70 per pupil. The lowest expenditures were allocated to Blackfalds school where bus routes were extremely short and a lower proportion of the students were transported. The expenditure was $28.35 per pupil. The county average expenditure was $71.15 per pupil.

The categories designated for non-daily transportation showed considerably less allocation of expenditures. These categories represented the use of buses to transport students on educational excursions or for sporting activities. The average cost was $2.48 and $.89 per pupil respectively. It was noticeably higher for

secondary schools and for schools which sponsored trips for student hockey such as M.A.C. and Bentley. Nevertheless the total expenditure, when compared to the daily transportation, was very low. The dtat also revealed that, because of the low overall totals, only one or two trips were sufficient to make an apparent difference in the unit cost. The total estimated expenditures for both categories for the whole county amounted to $13,061.00 or about one half of one percent of the total costs.

The 600 series of categories represented those expenditures made for operation of the school and central office plants, including minor repairs, upkeep of grounds, utilities, janitorial and custodial services, and supplies for janitorial services. The expenditures analysed under these categories tended to vary widely. The only persistent factor appeared to be the floor area of the school as compared to the number of students. Thus a school with specialized classrooms such as Lacombe Composite High School had high expenditures for both plant operation ($63.00 per pupil) and utilities ($38.52 per pupil). However many expenditures appeared to be "one-of-a-kind" expenditures, particularly expenditures for furniture, repairs to school sashing, new plantings on the grounds, and many other such items. It was difficult to find a pattern in this data over a one year period. Nevertheless, the secondary schools did pay higher utility costs than the elementary schools except for Satinwood ($22.00) per pupil) where propane was used for heating rather than the more common, and cheaper, natural gas. The school with the lowest per-pupil expenditures was Blackfalds ($37.72 total for all four

categories). The highest expenditures were made at Lacombe Composite High School ($106.74 for all four categories). The average expenditure within the county was $45.66 per pupil.

Analysis of the cost of maintenance, that is major repairs and upkeep within the county schools, was based on two evident features. These were the age of the school and the use which the school received. Thus newer schools such as Mirror ($11.52 per pupil) reflected a low estimated unit cost for maintenance, while older schools such as Clive, Blackfalds, and Bentley, reflected a considerably higher estimate of maintenance costs. Schools that received extensive use by the students and community such as Bentley Secondary School and M.A.C. also had indications of a higher level of expenditure. The largest per-pupil expenditure was found at the Bentley Secondary School ($28.78 per pupil). The largest total expenditure was found at Lacombe Elementary School ($13,150.00 or about $17.28 per pupil). The county total was $72,265.00 and the county expenditure per pupil was $18.50.

Summary. Two general observations can be made about the data presented in Table 2. Both the direct instructional costs and the implementary costs were higher for secondary school pupils and highest for pupils in the Lacombe Composite High School. The percentage of the total expenditure allocated to direct instruction varied from 56.2 percent in Lacombe Junior High School to 65.8 percent in Blackfalds school, but in most schools was very close to the county average of 59.7 percent of the total expenditure. The main factors in this distribution were higher expenditure for direct instruction and lower

expenditure for implementary purposes, particularly transportation. Both of these factors tended to raise the percentage of the direct instructional costs.

Despite the wide differences in unit costs between the schools (from $506.00 per pupil in Lacombe Elementary School to $1,002.00 per pupil in Lacombe Composite High School), and despite the variation in unit costs among the various functional-character categories, the percentages attributable to each of the two main categories remained nearly constant. The factor that most consistantly explained this phenomenon was the number of pupils per class. The larger classes in the elementary schools resulted in economy of scale in expenditures for both the facilities and the instruction.

Analysis of the Functional-Character Expenditures of the County of Mountain View.

The largest total allocation of expenditures to a single category was that for direct instructional costs. This was 58.8 percent of the total expenditures allocated in the county. This category is further analysed in subsequent sectors of this chapter..

Of the implementary expenditures allocated to various functional-character classification categories the largest was that for the daily transportation (10.1 percent of all expenditures). The remaining expenditures tended to be larger for service categories. County administration, for instance, accounted for 4.04 percent; school administration accounted for 4.86 percent; and library expenditures, which were partly for services and partly for goods, accounted for 2.88 percent. Plant operation accounted for 3.3 percent of the

expenditures. Most of the remaining functional-character categories were allocated only a small amount and a small percent of the total expenditure. The largest of these were plant maintenance (2.6 percent), utilities (2.56 percent), and educational television (1.4 percent). Several categories were so small as to approach the vanishing point, notably outgoing transfer expenditure (.02 percent) and bussing for extra-curricular activities (.01 percent). Table 5 shows the percentage allocated to each category and the percentage allocated to each school for both direct instructionable costs and "implementary costs". For the whole county, implementary expenditures, those under discussion in this portion of the study, amounted to just over 41 percent of the total expenditure.

Table 4: Analysis. Categories 110 and 120 reflect the estimated expenditures made for county administration and the expenses associated with that administration. These expenditures were prorated on the basis of the number of pupils so that the allocated unit cost was same for each school and each level. Some slight differences were noted when a specific county administrator indicated special services to one school but these were very small. The total expenditure for the two categories was estimated to be $31.85 per pupil.

Expenditures for administration within each school were not prorated but were allocated to school accounts on the basis of actual costs. Category 221, as indicated in Table 4, showed a distinctly larger expenditure for those schools with higher grade levels, particularly with division four. The highest unit costs were observed in connection with Olds High School ($44.80) and Cremona School

($45.75). The lower costs were found at Olds Elementary School ($17.87 per pupil) and at Reed Ranch school ($8.27 per pupil). The expenditure at Ross Ford School, an elementary school, was $24.25 per pupil. This represented an anomaly as it was higher than other elementary schools and higher than some schools with secondary grade levels. It was, however, lower than the county average ($30.45 per pupil). Examination of the data revealed that the schools with higher unit costs in this category were those in which the administrators did less teaching. Thus much of their salary and the administrative bonus were both allocated to the administrative expenditure category. This was particularly true for those administrators involved with schools with grades ten to twelve, so schools with secondary grade levels, and in particular with division four levels, tended to have higher unit costs. Schools in which the administrators were well qualified (hence schools with higher expenditures) often included all the grade levels so no particular ranking on the quantative importance of the divisional level as compared to the administrators' qualifications could be established from this particular set of data.

Category 222 was about those expenditures made for clerical assistance within each school. Three schools, Reed Ranch, Midway, and Ross Ford, did not indicate any clerical assistance. Of the remaining schools the highest unit expenditure was found at Didsbury High School ($14.50 per pupil), the lowest at Olds Elementary School ($4.70). The county average was $8.64 per pupil, but this included those pupils at schools where there were no expenditures for clerical assistance. Analysis of the data indicated that the expenditure was

based on secretarial time (all secretaries received very similar salaries) and that schools such as Olds High School ($10.75 per pupil in this category) and Didsbury High School ($14.50 per pupil) made more use of clerical assistance to the principal than to the teaching staff. Since all the schools making use of clerical assistance were secondary schools except Olds Elementary School (the one with the lowest unit cost), it is reasonable to conclude that schools with division three and four students were allocated more expenditures for clerical assistance than were schools with division one and two students.

The county of Mountain View employed a county guidance counsellor for a portion of the time under investigation. Category 223 reflected the allocation of expenditures made for guidance counsellors (and a small expenditure for special materials) in each school. While all schools received some allocation of resources for counselling, it was evident from the data that schools with division four and grade nine received the bulk of the expenditures. Differences between the higher-expenditure schools such as Olds High School ($22.22 per pupil) and other high schools reflected the differences in the salary paid to the resident counsellor and also reflected what portion of his time the counsellor spent in counselling as opposed to time spent in teaching. Schools in which there was no resident counsellor had very little expenditure for guidance. The lowest were Reed Ranch School ($.60 per pupil) and Midway ($.46 per pupil). The county average was $12.40 per pupil.

Category 224 reflected expenditure for direct instruction

other than that for regular classroom teachers; that is, the cost of substitutes and intern teachers. The cost of interns was pro-rated to the county as a whole, on a per-pupil basis, so any differences in this category were indicative of the differences in estimated costs for substitutes. Carstairs School had the most substitution and hence the highest expenditure in this category ($7.85 per pupil). The lowest was observed at the Reed Ranch School ($2.07 per pupil); the county average was $5.65 per pupil.

Category 225 encompassed the costs of bursaries, sabbatical leave grants, and loans. This expenditure total was pro-rated on a per-pupil basis so there were no differences among the unit costs for the various schools or grade levels. The unit cost was $.46.

Library expenditures included those made to attain the services of the librarian, those made for books and for supplies, and those made for audio-visual materials. The highest unit cost was found at the Cremona School ($24.71 per pupil), but several other schools were allocated resources very close to this level. The least expenditure per pupil was made on behalf of the pupils in the Midway School ($3.37) and the Reed Ranch School ($3.53 per pupil). Neither Reed Ranch School nor Midway School employed a librarian. This largely explained why the expenditure in these two instances was lower.

The educational supplies for the county were sub-categorized into various groupings: science supplies (category 235), physical education supplies (236), industrial arts supplies (237), home economics supplies (238), and all other supplies (category 233). Analysis of the expenditure revealed the expenditure of supplies to be closely

allied to the curricula offered in the school under consideration. Thus, elementary schools such as Olds Elementary or Ross Ford School reflected no expenditure for industrial arts supplies or home economics supplies. Since secondary schools offer a wider range of curricula, the schools with division three and four showed a larger and more varied allocation of expenditures for the various types of supplies. Didsbury High School showed an especially large allotment for industrial arts ($12.57 per pupil), while Reed Ranch School and Midway School showed a large expenditure for science supplies ($14.50 per pupil). The largest total expenditure per pupil for all types of supplies was found in connection with the Didsbury High School ($24.97 per pupil), the smallest in connection with the Olds Elementary School ($5.66 per pupil). The county average was $16.67 per pupil.

Category 239 was also reflective of supplies, and included those supplies used by the county as a whole but not in any given school. These were supplies used for county-wide field days and for teacher in-service work. The aggregated expenditures were prorated on a per-pupil basis and therefore the unit cost was the same for all pupil groupings ($.74).

Category 510, the expenditure made for daily transportation showed that the average unit cost for the county was $62.00. Three schools, Cremona ($122.00), Reed Ranch ($102.00), and Midway ($92.00) indicated high expenditure per pupil. In all three cases most of the pupils were bussed to school. In schools in larger centers, such Didsbury and Olds, the unit costs were considerably lower ($46.25 per pupil in Olds High School). Several schools (Carstairs, Sundre, and

Table 4

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Didsbury	Carstairs	Olds Elem.	Olds H. S.	Sundre
110	Administration	11,000 (25.22)	16,020 (25.22)	18,870 (25.22)	17,400 (25.22)	20,180 (25.22)
120	Expenses	3,006 (6.91)	4,200 (6.63)	4,960 (6.63)	4,516 (6.63)	5,300 (6.63)
210	Instruction	197,933 (454)	237,976 (374)	222,448 (297)	290,952 (425)	285,473 (356)
221	Instruc-	15,458 (35.41)	21,486 (33.82)	13,363 (17.87)	30,619 (44.80)	19,514 (24.21)
222	tional Costs;	6,334 (14.50)	6,469 (10.20)	3,520 (4.70)	6,334 (10.75)	6,334 (7.92)
223	Non-teacher	5,634 (12.92)	7,263 (11.42)	1,131 (2.47)	15,428 (22.22)	10,476 (13.10)
224	Salaries	2,181 (4.90)	4,984 (7.85)	5,575 (7.46)	3,556 (5.20)	5,385 (6.74)
225		201 (.46)	292 (.46)	344 (.46)	314 (.46)	368 (.46)
232	Library	10,223 (23.45)	14,980 (23.60)	14,980 (19.85)	11,280 (16.49)	12,756 (15.96)
233	Supplies	2,161 (4.96)	4,247 (6.69)	2,977 (3.99)	4,295 (6.28)	4,314 (5.40)
235	Science	2,109 (4.84)	1,895 (2.98)	812 (1.09)	2,351 (3.44)	2,214 (2.77)
236	Phys. Ed.	503 (1.15)	679 (1.07)	433 (.58)	760 (1.11)	784 (.98)
237	Ind. Arts	5,392 (12.37)	1,898 (2.99)	---	4,390 (6.42)	3,341 (4.19)
238	Home Ec.	283 (.65)	855 (1.35)	---	1,146 (1.68)	232 (.29)
239	Other	314 (.72)	456 (.72)	527 (.72)	492 (.72)	575 (.72)
240	Educational T.V.	3,821 (8.78)	5,570 (8.78)	6,560 (8.78)	6,000 (8.78)	7,020 (8.78)

a. Descriptions here are not comprehensive. They are only a label to guide the reader. Comprehensive descriptions are given on pages 26 - 28.

b. The figure in brackets represents the cost per pupil in that school.

Table 4 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Didsbury	Carstairs	Olds Elem.	Olds H. S.	Sundre
510	Bussing	22,485 (51.70)	41,625 (65.80)	34,835 (46.65)	31,650 (46.25)	52,293 (65.40)
520	Extra-curr.	12 (.02)	46 (.06)	---	89 (.13)	---
521	Co-curricular	298 (.68)	425 (.67)	266 (.36)	484 (.71)	284 (.36)
610	Plant Op.	7,140 (16.37)	14,540 (22.89)	14,820 (19.24)	16,000 (23.43)	12,240 (15.31)
620	Utilities	8,348 (19.15)	12,956 (20.40)	6,161 (8.25)	14,134 (20.66)	9,130 (11.43)
630	Supplies	960 (2.20)	1,440 (2.27)	1,632 (2.18)	1,536 (2.25)	1,728 (2.16)
710	Maintenance	6,723 (12.19)	12,185 (19.19)	8,789 (11.71)	20,457 (29.91)	8,301 (10.39)
720	Grounds	51 (.12)	98 (.15)	190 (.25)	259 (.38)	534 (.67)
730	Non-school	253 (.58)	380 (.60)	430 (.58)	405 (.59)	455 (.57)
800	Fixed Costs	1,860 (3.35)	2,180 (3.44)	2,500 (3.32)	2,330 (3.41)	2,630 (3.29)
1400	Outgoing Trans.	68 (.16)	102 (.16)	115 (.16)	108 (.16)	122 (.16)
TOTALS		314,351	415,257	366,238	487,285	471,983
Total Cost Per Pupil		724	613	485	713	598

Table 4 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Cremona	Reed Ranch	Midway	Ross Ford	Total
110	Administration Expenses	10,220 (25.22)	1,978 (25.22)	2,120 (25.22)	12,300 (25.22)	110,088 (25.22)
120		2,568 (6.63)	527 (6.63)	557 (6.63)	3,970 (6.90)	29,604 (6.77)
210	Instruction	149,001 (370)	28,572 (365)	29,829 (355)	155,560 (320)	1,597,744 (366)
221	Instructional costs; Non-teacher salaries	18,497 (45.75)	645 (8.27)	1,669 (19.70)	11,814 (24.25)	133,065 (30.45)
222		3,167 (7.85)	---	---	---	35,768 (8.64)
223		10,973 (27.16)	47 (.60)	47 (.56)	3,610 (7.40)	54,056 (12.40)
224		1,345 (3.33)	157 (2.07)	204 (2.43)	3,057 (6.27)	24,675 (5.65)
225		186 (.46)	37 (.46)	39 (.46)	1,288 (2.65)	2,006 (.46)
232	Library	10,406 (24.71)	275 (3.53)	283 (3.37)	2,868 (5.88)	78,051 (17.91)
233	Supplies	2,307 (5.71)	608 (7.80)	444 (5.29)	2,776 (5.69)	24,129 (5.52)
235	Science	1,449 (3.59)	1,131 (14.50)	1,242 (14.79)	1,428 (2.93)	14,631 (3.36)
236	Phys. Ed.	459 (1.14)	63 (.81)	48 (.57)	204 (.42)	3,933 (.90)
237	Ind. Arts	3,365 (8.34)	---	---	---	18,386 (4.22)
238	Home Ec.	415 (1.03)	---	---	---	2,931 (.67)
239	Other	290 (.72)	56 (.72)	61 (.72)	351 (.72)	3,122 (.72)
240	Educational T.V.	3,542 (8.78)	685 (8.78)	738 (8.78)	4,280 (8.78)	38,216 (8.78)

Table 4 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES

Category Number	Category Description	Cost Per Pupil, Per School ($) Cremona	Reed Ranch	Midway	Ross Ford	Mountain View County
510	Bussing	49,280 (122.00)	8,022 (102.00)	7,554 (92.80)	25,768 (53.00)	273,512 (62.60)
520	Extra-curr.	90 (.22)	---	---	12 (.02)	249 (.06)
521	Co-curricular	162 (.40)	---	18 (.22)	148 (.30)	2,085 (.46)
610	Plant Op.	9,650 (23.92)	1,970 (24.96)	1,960 (23.34)	12,500 (25.13)	90,820 (20.81)
620	Utilities	8,486 (21.00)	855 (10.96)	1,308 (15.57)	5,162 (10.58)	66,540 (15.25)
630	Supplies	864 (2.14)	192 (2.46)	192 (2.29)	1,056 (2.16)	9,600 (2.20)
710	Maintenance	7,231 (12.90)	447 (5.70)	2,145 (25.50)	5,504 (11.27)	71,782 (16.45)
720	Grounds	152 (.38)	145 (1.86)	---	76 (.16)	1,505 (.35)
730	Non-school	228 (.56)	51 (.65)	51 (.60)	278 (.57)	2,531 (.58)
800	Fixed Costs	1,330 (3.26)	2,890 (3.70)	2,760 (3.28)	1,621 (3.30)	19,701 (4.50)
1400	Outgoing Trans.	61 (.16)	14 (.16)	13 (.16)	75 (.16)	678 (.16)
TOTALS		295,724	49,367	53,282	255,931	2,709,438
Total Cost Per Pupil		731	632	634	526	619

Ross Ford) revealed expenditures very near the county average.

Categories 520 and 521 showed very small expenditures. Extra transportation tended to be short (many of the schools are quite close together) and trips for extra-curricular activities were infrequent.

The expenditures for plant operation (category 610) were relatively alike in each school. The county average was $20.81 per student. The highest expenditures were made on behalf of Ross Ford School ($25.13) and the lowest for Sundre School ($15.31 per pupil). The County of Mountain View had adopted a deliberate policy of reducing plant-operational costs and maintenance to as low as a figure as possible by avoiding expenditures not absolutely necessary at the time. The average expenditure for supplies used in plant operation (category 630) was $2.20 per pupil. No school revealed a unit cost more than a few cents different from this.

Care and maintenance of school plant and grounds are listed under categories 710 and 720. The expenditures allocated to the school grounds category were very low. In the case of school maintenance the highest expenditure was allocated to the Olds High School account ($29.91 per pupil) and the lowest expenditure to the Reed Ranch account ($5.70 per pupil). The county average was $16.45 per pupil.

Category 800 showed those expenditures made for fixed costs. These were expenditures over which the county school board had little control. They included items such as cost of elections, rentals of buildings, and some charges for financial services. In a few cases the expenditure was allocatable to a given school and this resulted

Table 5

PERCENTAGE OF TOTAL EXPENDITURES

By Category				By School			
Category Number	Percentage	Category Number	Percentage	School	Percentage of Direct Costs	Percentage of Implementary Costs	Percentage of Total Costs
110	4.04	239	.11	Didsbury	7.35	3.83	11.18
120	1.10	240	1.40	Carstairs	8.75	6.68	15.43
210	58.2	510	10.1	Olds Elem.	8.31	5.22	13.53
221	4.86	520	.01	Olds High	10.75	7.25	18.00
222	1.3	521	.08	Sundre	10.55	6.38	17.43
223	1.98	610	3.30	Cremona	5.55	5.43	10.98
224	.90	620	2.56	Reed Ranch	1.08	.80	1.96
225	.08	630	.35	Midway	.95	1.09	1.94
232	2.88	710	2.60	Ross Ford	5.98	3.76	9.49
233	.91	720	.06				
235	.52	730	.09				
236	.15	800	.72				
237	.67	1400	.02				
238	.10						

Source: Table 4

in a slight difference among the unit costs shown. For the most part, however, these expenditures were prorated on a per-pupil basis and no difference was indicated among the various pupil groupings. The cost per pupil throughout the county was $4.50.

Outgoing transfer charges were tuition paid on the behalf of some students to another educational unit; usually to a special school for the handicapped or retarded. The total tuition for the time period studied was $678.00 or about $.16 for each student in the county.

Summary of Functional-Character Analysis of the County of Mountain View.

Several observations can be made about the allocation of various expenditures to each school in Mountain View. The central office used a bookkeeping system that reflected many of the expenditures in terms of the school in which they were used. This made it more convenient to categorize the expenditures by both the functional-character and pupil groupings applicable.

Many of the schools in the county included grades one to twelve. This made it difficult to analyse exactly how the secondary schools were allocated a greater portion of the resources.

The total unit cost (sum of all the expenditures divided by the number of pupils) for the county was $619.00. The school with the highest unit cost was Didsbury High School at $840.00; the school with the lowest unit cost was Olds Elementary School at $485.00. Many of the schools were within 10 percent of the average unit cost.

Summary of the Analysis of the Functional-Character Expenditures in the County of Lacombe and in the County of Mountain View.

The following are characteristics of the expenditure patterns that emerged upon analysis of both the counties under consideration. These patterns are based on the analysis of expenditures in terms of their function and character and in terms of each school. Subsequent analysis will break the expenditure patterns down to smaller pupil groupings, but, even in terms of the gross groupings examined here, several points are clear.

1. Both counties showed clearly that expenditures in secondary schools were greater than expenditures in elementary schools.

2. The proportion of the expenditures allocated to direct instruction varied slightly, both within the counties and between the counties. The most crucial factors in this variation, the same factors in each county, were the number of pupils in each instruction group and the cost of pupil transportation. When pupil transportation costs were low, expenditures on direct instruction cost tended to be a higher percentage of the total expenditure.

3. In both counties, expenditures in one functional-character classification tended to complement expenditures in another category. One clear example is the administrative and clerical expenditures in the Ross Ford School. The administrative expenditure was $24.25 per pupil. There was no clerical cost. In the most comparable schools (such as Olds Elementary School) the administrative expenditure was lower ($17.87 in Olds Elementary) but this was complemented by an expenditure for clerical assistance ($4.70). Similar situations

tended to occur with respect to supplies.

4. There were indications of economy of scale in both counties, particularly in those schools that did not have division four. The data pertaining to economy of scale tended to be obscured by schools with large enrollments but a low pupil-teacher ratio, but in each county the smaller unit costs were found in connection with the larger elementary school such as Olds Elementary School and Lacombe Elementary School. Similarly, the larger schools with enrollment up to grade nine proved to have a lower unit cost than the smaller schools with similar grade levels. However, there were few examples of such schools, insufficient to offer clear evidence of economy of scale on the basis of this set of data.

Analysis of the Functional-Character Expenditures at the Divisional Levels of Pupil Groupings: County of Lacombe and County of Mountain View.

Organization and analysis of expenditures in pupil groupings corresponding to schools helped to clarify the picture of expenditure patterns in each county. However, in many cases this was not a sufficiently fine distinction to answer questions pertaining to the differences in expenditure patterns found at different grade levels. This was particularly true in the County of Mountain View where three of the larger schools had grades one to twelve, and all the schools encompassed at least two divisional levels.

The following tables are arranged in precisely the same manner as those for pupil-groupings by school except the expenditures cited refer only to those pupils in that school found in the division to which the table pertains.

In several functional-character categories the aggregate expenditures for the county were pro-rated on a per-pupil basis. These categories did not reflect any change in unit cost among the various schools or divisional levels. Such categories included numbers 110 (county administration), 120 (administrative expenses), 225 (bursaries), and 800 (fixed costs). These categories are not further analysed.

County of Lacombe. An examination of the direct instructional costs for the various divisions indicated that in all schools except Bentley Elementary School, the lowest unit costs were found in connection with division two. Closer examination of the data indicated that division one classrooms tended to have fewer pupils (especially grade one and opportunity rooms) and that division-one teachers were more qualified than division-two teachers (especially the grade one teachers).

The highest unit costs for direct instruction were found in division four, particularly at the Eckville School ($730.00 per pupil). Again, the two important factors were small numbers of pupils in the instructional unit and highly qualified (and hence highly paid) teachers. More detailed analysis of these and other factors pertaining to direct instructional costs follow in a subsequent section. For the purpose of this portion of the study it was sufficient to compare the county average costs by divisional level. These were: for division one--$344.00 per pupil, for division two--$327.00 per pupil, for division three--$369.00 per pupil, and for division four--$575.00 per pupil.

There was no doubt that school-administrative expenditures

(category 221) increased in direct relationship to the grade levels, but the pattern of that increase was interesting. School principals and vice principals tended to spend more time (and hence resources) on the higher grade levels unless one administrator was specifically allocated to one divisional level. Thus we find higher unit costs for division one in Eckville School and Bentley Elementary School but the total county picture revealed division two unit costs to have been slightly higher than division one, and administrative expenditures for higher divisions were still more costly. The administrative cost per student jumped sharply with the change from division two to three; from $27.90 to $44.30, a difference of about 59 percent. The difference between division three and four was about 50 percent of the division-three cost; $44.30 per pupil as compared to $62.60. In each case the explanation lay in the portion of the administrative time allocated by the principal to each portion of his school. The method of calculating the administrators' salaries in the County of Lacombe put extra weight on expenditures in division three and four, and in schools which had only these divisions, resulted in a higher unit cost. The ratio of administrators to students was higher for small schools (notably Blackfalds and Clive) and higher for division-four schools. This too, tended to raise the administrative costs per pupil, particularly in a small high school. Eckville division-four costs were the highest cited at $75.40 per pupil.

The same pattern was discernable in many of the other implementary categories. The unit cost rose from division one to two, rose sharply from division two to three, and rose more sharply from division

three to four.

One additional example of the expenditure pattern mentioned above proved to have several anomalies. Student transportation costs were a function of how many students travelled how many miles on county-provided transportation. The general pattern prevailed, largely because the older students travelled to more centralized schools, and thus the miles were greater. There were, however, a few exceptions, especially in the division two costs in Clive, Blackfalds, and Eckville schools. The largest exception was in connection with the Clive School where the unit costs were $132.50 per pupil in division one and only $94.44 per pupil in division two.

Several expenditure aggregations were assigned to the school grouping of pupils, and then pro-rated on a per pupil basis to the smaller sub-groupings. These unit costs showed no variation within each school and little variation in the overall pattern of divisions one to four. Examples of this type of pattern are plant operation (category 610), utilities (category 620), and maintenance expenditures (category 710). Because it was found impracticable to assign some expenditures other than on a per pupil basis, the various total per-pupil expenditures for each division reflected a bias toward equality. Nevertheless, the unit cost for each division was markedly different. The data shown in Table 10 summarize this.

Table 6

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES DIVISION ONE

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Lacombe Elem.	Clive	Blackfalds	Satinwood	Eckville
110	Administration	4,440 (10.88)	602 (10.88)	1,165 (10.88)	524 (10.88)	1,471 (10.88)
120		2,185 (5.40)	297 (5.40)	578 (5.40)	259 (5.40)	729 (5.40)
210	Instruction	130,367 (321)	24,825 (448)	44,680 (418)	22,315 (464)	46,377 (343)
221	Indirect instructional costs.	9,502 (23.45)	774 (13.95)	2,304	797 (16.16)	3,468 (25.70)
222		1,820 (4.49)	541 (9.84)	717 (6.70)	240 (5.00)	1,230 (9.11)
223		491 (1.22)	69 (1.25)	97 (.91)	48 (.99)	169 (1.25)
224	Non-teacher salaries	1,510 (3.75)	210 (3.79)	80 (.75)	40 (.83)	1,060 (7.86)
225		1,175 (2.90)	159 (2.90)	311 (2.90)	139 (2.90)	392 (2.90)
231	Texts	190 (.47)	28 (.50)	59 (.55)	27 (.56)	63 (.47)
232	Library	4,830 (11.81)	586 (10.65)	2,280 (21.31)	900 (18.70)	3,638 (25.69)
233	Gen. Supplies	1,960 (4.84)	484 (8.78)	412 (3.84)	454 (9.46)	1,291 (9.56)
234	Equipment	1,385 (3.42)	275 (5.00)	507 (4.74)	269 (5.60)	695 (5.15)
236	Phys. Ed.	318 (.75)	46 (.83)	87 (.81)	38 (.80)	93 (.69)

Table 6 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES DIVISION ONE

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Lacombe Elem.	Clive	Blackfalds	Satinwood	Eckville
510	Bussing	20,054 (49.40)	7,364 (132.50)	3,320 (31.00)	6,659 (137.30)	10,010 (74.00)
520		---	---	---	---	---
521		318 (.75)	---	---	---	---
610	Plant Op.	9,200 (22.69)	1,590 (28.92)	2,641 (24.78)	1,810 (37.75)	5,760 (42.71)
620	Utilities	4,185 (10.33)	988 (17.97)	820 (7.66)	527 (10.97)	1,539 (11.38)
630	Plant Supp.	1,745 (4.31)	238 (4.31)	461 (4.31)	208 (4.31)	583 (4.31)
640	Central Off.	380 (.94)	48 (.87)	103 (.96)	52 (1.08)	126 (.93)
710	Maintenance	7,020 (17.28)	1,268 (23.01)	2,560 (23.91)	832 (17.29)	2,340 (17.31)
800	Fixed Costs	352 (.87)	48 (.87)	93 (.87)	42 (.87)	118 (.87)
TOTALS	Direct Costs	130,367 (321)	24,825 (448)	44,680 (418)	22,315 (464)	46,377 (343)
	Implementary	73,060 (181)	15,615 (287)	18,595 (173)	13,865 (290)	34,775 (257)
	All Costs	203,427 (502)	40,440 (735)	63,275 (591)	36,180 (754)	81,152 (600)

Table 6 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES
DIVISION ONE

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Mirror	Alix	Bentley Elem.	Totals
110	Administration	798 (10.88)	925 (10.88)	1,148 (10.88)	11,073 (10.88)
120		362 (5.40)	469 (5.40)	568 (5.40)	5,447 (5.40)
210	Instruction	23,420 (349)	25,390 (291)	29,856 (280)	347,230 (344.00)
221	Indirect	1,838 (27.45)	2,527 (29.75)	4,053 (38.60)	25,263 (25.00)
222	instructional	438 (6.55)	962 (11.31)	429 (4.08)	6,377 (6.33)
223	costs.	76 (1.14)	106 (1.25)	131 (1.24)	1,187 (1.18)
224	Non-teacher	100 (1.49)	120 (1.41)	540 (5.14)	3,660 (3.65)
225	salaries	194 (2.90)	247 (2.90)	305 (2.90)	2,922 (2.91)
231	Texts	36 (.54)	40 (.47)	59 (.56)	502 (.50)
232	Library	1,390 (20.78)	1,831 (21.50)	1,633 (15.53)	17,088 (17.00)
233	Gen. Supplies	552 (8.25)	697 (8.19)	626 (5.86)	6,476 (6.46)
234	Equipment	406 (6.06)	699 (8.20)	468 (4.45)	4,704 (4.69)
236	Phys. Ed.	57 (.85)	77 (.91)	80 (.76)	796 (.79)

Table 6 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION ONE

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Mirror	Alix	Bentley Elem.	Totals
510	Bussing	5,576 (83.00)	5,431 (63.80)	4,783 (46.55)	63,197 (62.70)
520		---	---	---	---
521		---	---	---	318 (.30)
610	Plant Op.	1,682 (25.17)	2,160 (25.32)	3,209 (30.52)	28,052 (27.90)
620	Utilities	1,338 (20.01)	1,253 (14.73)	1,505 (14.51)	12,155 (12.08)
630	Plant Supp.	289 (4.31)	367 (4.31)	453 (4.31)	4,344 (4.31)
640	Central Off.	63 (.94)	84 (.99)	98 (.93)	954 (.95)
710	Maintenance	773 (11.52)	1,959 (23.06)	1,517 (14.42)	18,269 (18.07)
800	Fixed Costs	58 (.87)	74 (.87)	92 (.87)	877 (.87)
TOTALS	Direct Costs	23,420 (349)	25,390 (294)	29,856 (280)	347,230 (344.00)
	Implementary	16,026 (241)	20,028 (240)	21,697 (207)	213,661 (211.97)
	All Costs	39,446 (590)	45,418 (534)	51,553 (487)	560,891 (555.97)

Table 7

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION TWO

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Lacombe Elem.	Clive	Blackfalds	Satinwood	Eckville
110	Administration	3,880 (10.88)	764 (10.88)	1,045 (10.88)	371 (10.88)	1,317 (10.88)
120		1,946 (5.40)	378 (5.40)	518 (5.40)	184 (5.40)	648 (5.40)
210	Instruction	108,717 (305)	24,978 (357)	27,140 (282)	13,960 (410)	40,940 (341)
221	Indirect	10,058 (28.20)	1,300 (18.57)	2,304 (24.00)	797 (23.42)	2,589 (21.60)
222	instructional	1,600 (4.49)	699 (9.84)	644 (6.70)	170 (5.00)	1,092 (9.11)
223	costs.	434 (1.22)	87 (1.25)	88 (.91)	33 (.94)	150 (1.25)
224	Non-teacher	960 (2.70)	720 (10.30)	400 (4.16)	25 (.73)	100 (.84)
225	salaries	1,033 (2.90)	203 (2.90)	278 (2.90)	99 (2.90)	348 (2.90)
231	Texts	272 (.76)	53 (.76)	74 (.77)	26 (.76)	92 (.76)
232	Library	4,250 (11.81)	746 (10.65)	2,430 (21.31)	635 (18.70)	3,085 (25.69)
233	Gen. Supplies	1,723 (4.84)	615 (8.78)	340 (3.54)	322 (9.46)	1,148 (9.56)
234	Equipment	1,219 (3.42)	350 (5.00)	455 (4.74)	191 (5.60)	618 (5.15)
236	Phys. Ed.	270 (.75)	58 (.83)	78 (.81)	27 (.80)	83 (.69)

Table 7 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION TWO

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Lacombe Elem.	Clive	Blackfalds	Satinwood	Eckville
510	Bussing	19,320 (54.20)	6,471 (94.44)	2,480 (25.82)	4,769 (140)	8,750 (73.00)
520		219 (.62)	45 (.64)	---	---	---
521		270 (.75)	---	---	60 (1.77)	---
610	Plant Op.	8,080 (22.69)	2,890 (28.92)	2,380 (24.78)	1,290 (37.95)	5,150 (42.91)
620	Utilities	3,680 (10.33)	1,258 (17.97)	735 (7.66)	373 (10.97)	1,368 (11.38)
630	Plant Supp.	1,534 (4.31)	302 (4.31)	414 (4.31)	147 (4.31)	518 (4.31)
640	Central Off.	335 (.94)	61 (.87)	92 (.96)	37 (1.08)	113 (.93)
710	Maintenance	6,160 (17.28)	1,680 (23.01)	2,219 (23.91)	588 (17.29)	2,080 (17.31)
800	Fixed Costs	310 (.87)	61 (.87)	84 (.87)	30 (.87)	105 (.87)
TOTALS	Direct Costs	108,717 (305)	24,978 (357)	27,140 (282)	13,960 (410)	40,940 (341)
	Implementary	67,533 (189)	18,741 (267)	17,058 (178)	9,274 (272)	29,354 (245)
	All Costs	176,270 (494)	43,719 (624)	44,198 (460)	23,234 (683)	70,294 (586)

Table 7 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION TWO

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Mirror	Alix	Bentley Elem.	Totals
110	Administration	818 (10.88)	764 (10.88)	1,406 (10.88)	10,365 (10.88)
120		405 (5.40)	378 (5.40)	698 (5.40)	5,155 (5.40)
210	Instruction	21,165 (282)	19,810 (283)	54,713 (424)	311,423 (327)
221	Indirect	2,823 (37.60)	2,527 (35.05)	4,053 (31.40)	26,451 (27.90)
222	instructional	492 (6.55)	792 (11.31)	526 (4.08)	6,015 (6.32)
223	costs.	85 (1.14)	88 (1.25)	160 (1.24)	1,125 (1.19)
224	Non-teacher	180 (2.40)	130 (.85)	810 (6.27)	3,325 (3.50)
225	salaries	218 (2.90)	203 (2.90)	375 (2.90)	2,757 (2.90)
231	Texts	56 (.75)	53 (.76)	99 (.77)	725 (.76)
232	Library	1,560 (20.78)	1,507 (21.50)	2,008 (15.53)	16,221 (17.09)
233	Gen. Supplies	619 (8.25)	573 (8.19)	757 (5.86)	6,097 (6.42)
234	Equipment	455 (6.06)	574 (8.20)	575 (4.45)	4,437 (4.46)
236	Phys. Ed.	65 (.85)	64 (.91)	98 (.76)	743 (.78)

Table 7 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES
DIVISION TWO

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Mirror	Alix	Bentley Elem.	Totals
510	Bussing	7,793 (104)	5,226 (75.00)	6,052 (47.00)	60,861 (64.00)
520		---	---	---	264 (.27)
521		161 (2.14)	---	146 (1.13)	637 (.67)
610	Plant Op.	1,885 (25.17)	1,770 (25.32)	3,871 (30.52)	27,316 (28.75)
620	Utilities	1,501 (20.01)	1,031 (14.73)	1,875 (14.51)	11,821 (12.41)
630	Plant Supp.	323 (4.31)	302 (4.31)	556 (4.31)	4,096 (4.31)
640	Central Off.	75 (.94)	69 (.99)	120 (.93)	902 (.95)
710	Maintenance	864 (11.52)	1,611 (23.06)	1,860 (14.42)	17,062 (17.90)
800	Fixed Costs	65 (.87)	61 (.87)	112 (.87)	828 (.87)
TOTALS	Direct Costs	21,165 (282)	19,810 (283)	54,713 (424)	311,423 (327)
	Implementary	20,443 (273)	17,723 (253)	26,157 (203)	207,203 (218)
	All Costs	41,608 (555)	37,533 (536)	80,870 (627)	518,620 (545)

Table 8

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES DIVISION 3

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Clive	Lacombe Jun. High	Blackfalds	Satinwood	Eckville
510	Bussing	6,413 (105.40)	22,558 (66.90)	2,145 (26.15)	3,647 (145.88)	10,128 (79.20)
520		300 (4.92)	1,046 (2.70)	321 (3.91)	142 (5.68)	1,200 (9.46)
521		240 (3.94)	169 (.44)	52	60 (2.40)	338
610	Plant Op.	1,762 (28.92)	8,960 (23.25)	2,033 (24.78)	944 (37.75)	6,420 (42.71)
620	Utilities	1,095 (17.97)	5,150 (13.36)	627 (7.66)	274 (10.97)	1,445 (11.38)
630	Supplies (Jan.)	264 (4.31)	1,665 (4.31)	354 (4.31)	108 (4.31)	548 (4.31)
640	Central Off.	53 (.87)	371 (.96)	88 (1.08)	24 (.93)	119 (.94)
710	Maint.	1,405 (23.01)	7,990 (20.72)	1,960 (23.91)	432 (17.29)	2,200 (17.31)
800	Fixed Costs	53 (.87)	336 (.87)	71 (.87)	22 (.87)	98 (.87)
TOTALS	Direct Costs	28,081 (460)	133,312 (345)	39,730 (483)	11,252 (450)	42,664 (336)
	Implementary	18,527 (304)	102,128 (264)	16,998 (207)	8,262 (329)	40,694 (312)
	All Costs	46,609 (764)	235,440 (609)	56,728 (690)	19,514 (779)	83,358 (648)

Table 8 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION 3

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Clive	Lacombe Jun. High	Blackfalds	Satinwood	Eckville
110	Administration	664 (10.88)	4,200 (10.88)	893 (10.88)	272 (10.88)	1,380 (10.88)
120		330 (5.40)	2,081 (5.40)	443 (5.40)	135 (5.40)	686 (5.40)
210	Direct Instructional costs.	28,081 (460)	133,312 (345)	39,730 (483)	11,252 (450)	42,664 (336)
221	Instructional Costs	3,497 (57.40)	16,913 (43.81)	4,302 (52.40)	1,062 (42.45)	5,174 (40.70)
222		600 (9.84)	3,940 (10.20)	630 (7.68)	125 (5.00)	1,157 (9.11)
223		76 (1.25)	3,890 (10.07)	75 (.91)	24 (.94)	2,987 (23.55)
224	Non-Teacher Salaries	---	980 (2.54)	---	30 (1.20)	310 (2.44)
225		177 (2.90)	1,120 (2.90)	238 (2.90)	73 (2.90)	378 (2.90)
231	Texts	57 (.93)	369 (.93)	76 (.93)	23 (.93)	118 (.93)
232	Library	650 (10.65)	9,820 (25.45)	1,745 (21.31)	468 (18.70)	3,262 (25.69)
233	Gen. Supplies	536 (8.78)	6,934 (17.96)	290 (3.54)	237 (9.46)	1,215 (9.56)
234	Equipment	305 (5.00)	3,250 (8.42)	389 (4.74)	140 (5.60)	654 (5.15)
236	Phys. Ed.	51 (.83)	386 (1.00)	66 (.81)	20 (.80)	877 (.69)

Table 8 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION 3

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Mirror	Alix	Bentley High	Totals
110	Administration	893 (10.88)	958 (10.88)	1,557 (10.88)	10,817 (10.88)
120		443 (5.40)	475 (5.40)	773 (5.40)	5,366 (5.40)
210	Instruction	32,958 (402)	23,188 (267)	55,500 (388)	366,685 (369)
221	Indirect instructional costs.	4,004 (48.76)	3,536 (40.30)	5,586 (25.60)	44,074 (44.30)
222		537 (6.55)	999 (11.31)	2,519 (17.59)	10,507 (10.58)
223		94 (1.14)	2,973 (33.75)	2,987 (20.77)	13,106 (13.20)
224	Non-teacher salaries	370 (4.51)	240 (2.73)	538 (3.76)	2,468 (2.49)
225		238 (2.90)	255 (2.90)	415 (2.90)	2,894 (2.91)
231	Texts	76 (.93)	82 (.93)	133 (.93)	934 (.94)
232	Library	1,705 (20.78)	1,892 (21.50)	2,705 (18.93)	22,247 (22.42)
233	Gen. Supplies	676 (8.25)	720 (8.19)	1,139 (7.97)	11,747 (11.81)
234	Equipment	497 (6.06)	721 (8.20)	1,330 (9.30)	7,286 (7.29)
236	Phys. Ed.	70 (.85)	80 (.91)	143 (1.00)	1,693 (1.70)

Table 8 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION 3

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Mirror	Alix	Bentley High	Totals
510	Bussing	6,458 (78.80)	5,867 (66.70)	12,329 (86.20)	69,545 (70.00)
520		459 (5.60)	350 (3.98)	715 (5.00)	4,533 (4.55)
521		322	438	73	1,692 (1.70)
610	Plant Op.	2,060 (25.17)	224 (25.32)	4,170 (29.15)	26,573 (26.65)
620	Utilities	1,682 (20.01)	1,297 (14.73)	1,592 (11.45)	13,162 (13.24)
630	Plant Supp.	354 (4.31)	379 (4.31)	616 (4.31)	4,288 (4.31)
640	Central Off.	81 (.99)	82 (.93)	130 (.91)	948 (9.53)
710	Maintenance	945 (11.52)	2,350 (23.06)	4,118 (28.78)	21,400 (21.70)
800	Fixed Costs	71 (.87)	77 (.87)	124 (.87)	852 (.87)
TOTALS	Direct Costs	32,958 (402)	23,188 (267)	55,500 (388)	366,685 (369)
	Implementary	22,035 (269)	23,985 (273)	43,690 (305)	276,132 (286)
	All Costs	54,993 (671)	47,173 (540)	99,192 (693)	642,817 (655)

Table 9

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES DIVISION FOUR

Category Number	Category Description	Cost Per Pupil, Per School ($)				
		Lacombe High	Eckville	Alix	Bentley High	Totals
110	Administration	6,150 (10.88)	904 (10.88)	1,699 (10.88)	1,111 (10.88)	9,864 (10.88)
120		3,050 (5.40)	448 (5.40)	842 (5.40)	551 (5.40)	4,891 (5.40)
210	Instruction	333,000 (580)	60,520 (730)	88,073 (565)	39,610 (388)	521,203 (575)
221	Indirect	37,372 (67.82)	6,256 (75.40)	7,571 (48.60)	5,586 (54.70)	56,785 (62.60)
222	instructional	14,850 (25.96)	756 (9.11)	1,765 (11.31)	1,795 (17.59)	19,166 (21.15)
223	costs.	9,560 (16.62)	3,200 (38.55)	3,958 (19.60)	3,945 (38.55)	19,763 (21.80)
224	Non-teacher	1,440 (2.55)	224 (2.75)	800 (4.13)	384 (3.76)	2,848 (3.15)
225	salaries	1,640 (2.90)	241 (2.90)	453 (2.90)	296 (2.90)	2,630 (2.90)
231	Texts	760 (1.34)	111 (1.34)	209 (1.34)	137 (1.34)	1,217 (1.34)
232	Library	10,820 (19.15)	2,135 (25.69)	3,355 (21.50)	1,933 (18.93)	18,243 (20.20)
233	Gen. Supplies	22,300 (39.46)	794 (9.56)	1,278 (8.19)	824 (7.97)	25,196 (27.81)
234	Equipment	4,748 (8.42)	428 (5.15)	1,280 (8.20)	950 (9.30)	7,406 (8.25)
236	Phys. Ed.	565 (1.00)	83 (1.00)	156 (1.00)	102 (1.00)	906 (1.00)

Table 9 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION FOUR

Category Number	Category Description	Cost Per Pupil, Per School ($) Lacombe High	Eckville	Alix	Bentley High	Totals
510	Bussing	45,218 (80.30)	8,446 (102.00)	20,174 (128.90)	10,293 (101.00)	84,131 (92.90)
520		2,151 (3.80)	1,205 (14.50)	736 (4.71)	720 (7.04)	4,812 (5.30)
521		333 (.44)	338 (2.46)	438 (2.81)	73 (.71)	1,182 (1.30)
610	Plant Op.	35,647 (63.20)	3,545 (42.71)	3,948 (25.32)	2,975 (29.15)	46,115 (50.90)
620	Utilities	21,762 (38.52)	946 (11.38)	2,290 (14.73)	1,169 (11.45)	26,167 (28.88)
630	Plant Supp.	2,437 (4.31)	358 (4.31)	673 (4.31)	441 (4.31)	3,909 (4.31)
640	Central Off.	520 (.92)	72 (.93)	155 (.99)	93 (.11)	840 (.93)
710	Maintenance	8,150 (14.42)	1,437 (17.31)	3,590 (23.06)	2,939 (28.78)	16,116 (17.82)
800	Fixed Costs	492 (.87)	7,225 (.87)	13,580 (.87)	8,880 (.87)	789 (.87)
TOTALS	Direct Costs	333,000 (588)	60,520 (730)	88,073 (565)	39,610 (388)	521,203 (575)
	Implementary	236,665 (408.28)	31,999 (384.47)	54,606 (349.70)	36,406 (356.54)	352,976 (389.69)
	All Costs	569,665 (996)	92,519 (1115)	142,679 (913)	76,016 (745)	874,179 (965)

Table 10

ESTIMATED UNIT COSTS BY DIVISIONAL LEVEL
COUNTY OF LACOMBE

Division	Direct Instructional Cost	Implementary Costs	Total Cost	Total Cost For a Class of 26
1	$344.00	$212.00	$556.00	$14,456.00
2	$327.00	$218.00	$545.00	$14,170.00
3	$369.00	$286.00	$655.00	$17,030.00
4	$575.00	$390.00	$965.00	$25,090.00

In the school year July, 1969, to June, 1970, the operational expenditure for division four students was $965.00 per pupil, or about 175 percent of the expenditure for an elementary school student.

County of Mountain View. The patterns that emerged upon analysis of the expenditure data in terms of grade levels showed three different general types.

The most common (in terms of dollar flow) revealed little or no difference between the unit costs in grades 1 to 6, an increase in unit cost for students in grades 7 to 9, and another increase for students in grades 10 to 12. In terms of the data as collected and analysed, this pattern was common when the functional-character nature of the expenditure was connected with services (as opposed to goods). It was particularly evident in categories dealing with professional services such as expenditures for teachers and administrators. Tables

11 to 14 show this pattern in detail, and indeed, reveal anomalies in the pattern. In general terms a few examples are sufficient to illustrate both the pattern and some of the anomalies.

Direct instructional expenditures varied from $266.00 per pupil in division two (Sundre School) to $510.00 per pupil in division four (Carstairs School). The first of these represents a slight break from the above mentioned pattern. The county average for division one was $291.00, for division two was $304.00, for division three was $400.00, and for division four was $490.00. In three of the nine schools (Carstairs, Sundre, and Reed Ranch), the division two unit costs were lower than in division one. In each case the difference was slight, and in each case the number of pupils per class room was lower in division one. However, the latter factor also occurred in schools that followed the pattern, particularly in those schools with opportunity rooms. In every case the reasons for higher division costs were:

1. Higher salaried teachers.

2. The principal and/or the vice principal taught in higher grades; usually in grade six or twelve. Persons selected to hold administrators posts nearly always were more qualified in terms of both training and experience. The higher salaries contributed to higher unit costs.

3. More remedial work was done at or above the division two lebel. Remedial work, because of the few students involved; tended to be the most expensive of all elementary school courses (see Table 18 for unit expenditures in terms of courses).

There was a wider difference in the unit costs between schools than between grade or divisional levels. This was particularly true in division one where the costs varied from $288.00 in the Carstairs school to $416.00 in the Reed Ranch school. The reasons for the variation are the same as those cited above. In division four, however, the unit costs varied much less; from $450.00 to $510.00.

Another category of functional-character expenditures that followed the same pattern as described above was school-administrative costs. Carstairs school unit costs were archtypical. They were, for divisions one to four respectively: $11.80, $17.19, $43.10, and $86.80. The reasons too, were typical of the county as a whole. The administrators assigned to this school spent more of their time involved with the higher grade levels.

There were, however, some exceptions to the pattern as typified by the Carstairs school. In Sundre school the division three unit costs were considerably less than those for division two. In Cremona school the division four unit costs were less than division three. In each of these cases (and in others) a vice-principal appeared to be more responsible for some lower divisional level.

A second type of expenditure pattern was apparent in situations where some factors in the school situation were more important than the factors inherent in the grade level of the student. One obvious example of this type of situation was daily transportation. The transportation expenditures in the County of Mountain View appeared independent of the grade level and very dependent on the location of the school with respect to population density. Thus schools located

Table 11

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES
DIVISION ONE

Category Number	Category Description	Cost Per Pupil, Per School ($) Carstairs	Olds Elem.	Sundre	Cremona
110	Administration	4,640 (25.22)	9,430 (25.22)	5,675 (25.22)	2,542 (25.22)
120	Expenses	122 (6.63)	2,470 (6.63)	1,490 (6.63)	669 (6.63)
210	Instruction	52,940 (288)	100,875 (270)	73,235 (326)	29,208 (290)
221	Indirect	2,107 (11.80)	6,681 (17.69)	3,314 (14.72)	3,284 (32.74)
222	instructional	316 (1.72)	1,755 (4.70)	1,585 (7.04)	800 (7.92)
223	costs.	2,688 (14.60)	367 (.98)	1,585 (7.05)	108 (1.07)
224	Non-teacher	1,274 (6.92)	921 (2.46)	692 (3.08)	192 (1.90)
225	salaries	87 (.46)	172 (.46)	103 (.46)	46 (.46)
232	Library	4,340 (23.60)	7,410 (19.85)	3,596 (15.96)	2,495 (24.71)
233	Supplies	1,233 (6.69)	1,490 (3.99)	1,215 (5.40)	577 (5.71)
235	Science	545 (2.98)	407 (1.09)	620 (2.77)	363 (3.59)
236	Phys. Ed.	197 (1.07)	216 (.58)	221 (.98)	115 (1.14)
237	Ind. Arts	---	---	---	---
238	Home Ec.	---	---	---	---
239	Other	134 (.72)	268 (.72)	162 (.72)	73 (.72)
240	Educational T. V.	1,620 (8.78)	3,100 (8.78)	1,975 (8.78)	886 (8.78)

Table 11 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION ONE

Category Number	Category Description	Cost Per Pupil, Per School ($) Carstairs	Olds Elem.	Sundre	Cremona
510	Bussing	13,775 (74.90)	17,075 (45.90)	14,233 (63.20)	12,360 (122.40)
520	Extra-curr.	---	---	---	---
521	Co-curricular	---	---	---	---
610	Plant Op.	4,220 (22.89)	7,110 (19.04)	3,442 (15.31)	2,420 (23.92)
620	Utilities	3,759 (20.40)	3,075 (8.25)	2,572 (11.43)	2,121 (21.00)
630	Supplies	418 (2.27)	814 (2.18)	486 (2.16)	216 (2.14)
710	Maintenance	3,530 (19.19)	4,392 (11.77)	2,339 (10.39)	1,302 (12.90)
720	Grounds	28 (.15)	93 (.25)	151 (.67)	38 (.38)
730	Non-school	110 (.60)	222 (.58)	128 (.57)	57 (.56)
800	Fixed Costs	634 (3.44)	1,279 (3.32)	741 (3.29)	329 (3.26)
1400	Outgoing Trans.	29 (.16)	60 (.16)	36 (.16)	16 (.16)
TOTALS	Direct Costs	52,940 (288)	100,875 (270)	73,235 (326)	29,208 (290)
	Implementary	46,282 (248)	68,807 (185)	46,352 (208)	31,009 (309)
	All Costs	99,222 (536)	169,382 (455)	119,587 (534)	60,217 (599)

Table 11 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION ONE

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Reed Ranch	Midway	Ross Ford	Totals
110	Administration	631 (25.22)	882 (25.22)	6,051 (25.22)	29,856 (25.22)
120	Expenses	166 (6.63)	232 (6.63)	1,590 (6.90)	6,739 ( )
210	Instruction	10,808 (416)	9,305 (266)	78,257 (261)	354,628 (291)
221	Indirect	206 (8.27)	690 (19.70)	5,907 (24.59)	22,252 (18.82)
222	instructional	---	---	1,770 (7.40)	6,225 (5.28)
223	costs.	15 (.60)	20 (.56)	117 (7.40)	4,900 (4.14)
224	Non-teacher	89 (3.56)	37 (1.06)	636 (2.65)	3,841 (3.25)
225	salaries	12 (.46)	16 (.46)	110 (.46)	543 (.46)
232	Library	88 (3.53)	118 (3.37)	1,412 (5.88)	19,459 (16.45)
233	Supplies	195 (7.80)	185 (5.29)	1,368 (5.69)	6,263 (5.31)
235	Science	362 (14.50)	575 (14.79)	704 (2.93)	3,576 (3.02)
236	Phys. Ed.	20 (.81)	20 (.57)	101 (.42)	890 (.75)
237	Ind. Arts	---	---	---	
238	Home Ec.	---	---	---	
239	Other	18 (.72)	25 (.72)	173 (.72)	853 (.72)
240	Educational T.V.	2,195 (8.78)	338 (8.78)	2,150 (8.78)	12,264 (8.78)

Table 11 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES
DIVISION ONE

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Reed Ranch	Midway	Ross Ford	Totals
510	Bussing	3,565 (142.60)	3,170 (90.50)	12,698 (52.70)	76,876 (65.00)
520	Extra-curr.	---	---	---	
521	Co-curricular	---	---	---	
610	Plant Op.	624 (24.96)	816 (23.34)	6,040 (25.13)	24,762 (20.90)
620	Utilities	274 (10.96)	545 (15.57)	2,541 (10.58)	15,294 (12.90)
630	Supplies	61 (2.46)	80 (2.29)	519 (2.16)	2,594 (2.19)
710	Maintenance	147 (5.70)	893 (25.50)	2,710 (11.27)	15,283 (12.90)
720	Grounds	47 (1.86)	---	38 (.16)	395 (.38)
730	Non-school	16 (.65)	21 (.60)	137 (.57)	691 (.58)
800	Fixed Costs	93 (3.70)	115 (3.28)	792 (3.30)	3,983 (3.36)
1400	Outgoing Trans.	4 (.16)	5 (.16)	38 (.16)	188 (.16)
TOTALS	Direct Costs	10,808 (416)	9,305 (266)	78,257 (261)	354,628 (291)
	Implementary	8,828 (353)	8,783 (253)	47,602 (198)	256,671 (216)
	All Costs	19,638 (769)	18,088 (519)	125,859 (459)	611,299 (507)

Table 12

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES DIVISION TWO

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Carstairs	Olds Elem.	Sundre	Cremona
110	Administration	4,340 (25.22)	9,700 (25.22)	5,150 (25.22)	2,220 (25.22)
120	Expenses	1,141 (6.63)	2,550 (6.63)	1,354 (6.63)	584 (6.63)
210	Instruction	47,092 (274)	120,573 (312)	54,320 (266)	31,136 (356)
221	Indirect	2,675 (17.19)	6,682 (17.40)	5,794 (28.35)	3,284 (37.39)
222	instructional	3,167 (1.84)	1,805 (4.70)	1,583 (7.75)	793 (9.00)
223	costs.	768 (4.46)	367 (9.55)	1,965 (9.62)	108 (1.23)
224	Non-teacher	1,120 (6.50)	1,329 (3.46)	3,091 (15.13)	202 (2.30)
225	salaries	79 (.46)	177 (.46)	94 (.46)	41 (.46)
232	Library	4,059 (23.60)	7,620 (19.85)	3,258 (15.76)	2,175 (24.71)
233	Supplies	1,135 (6.69)	1,302 (3.39)	1,110 (5.40)	503 (5.71)
235	Science	513 (2.98)	418 (1.09)	566 (2.77)	316 (3.59)
236	Phys. Ed.	188 (1.07)	222 (.58)	200 (.98)	100 (1.14)
237	Ind. Arts	---	---	---	---
238	Home Ec.	---	---	---	---
239	Other	122 (.72)	276 (.72)	147 (.72)	63 (.72)
240	Educational T.V.	1,510 (8.78)	3,370 (8.78)	1,790 (8.78)	723 (8.78)

Table 12 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION TWO

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Carstairs	Olds Elem.	Sundre	Cremona
510	Bussing	11,080 (64.40)	11,030 (28.75)	13,760 (67.40)	10,780 (125.50)
520	Extra-curr.	---	---	---	---
521	Co-curricular	---	---	---	---
610	Plant Op.	4,890 (22.89)	7,300 (19.04)	3,125 (15.31)	2,203 (23.92)
620	Utilities	3,580 (20.40)	316 (8.25)	2,332 (11.43)	1,850 (21.00)
630	Supplies	393 (2.27)	836 (2.18)	441 (2.16)	188 (2.14)
710	Maintenance	3,300 (19.19)	4,520 (11.77)	2,120 (10.39)	1,137 (12.90)
720	Grounds	27 (.15)	96 (.25)	137 (.67)	33 (.38)
730	Non-school	103 (.60)	223 (.58)	116 (.57)	49 (.56)
800	Fixed Costs	558 (3.44)	1,262 (3.32)	672 (3.29)	287 (3.26)
1400	Outgoing Trans.	28 (.16)	62 (.16)	33 (.16)	14 (.16)
TOTALS	Direct Costs	47,092 (274)	120,573 (312)	54,320 (266)	31,136 (356)
	Implementary	41,925 (244)	61,463 (160)	47,838 (239)	27,553 (313)
	All Costs	89,017 (518)	182,336 (472)	102,158 (505)	58,689 (669)

Table 12 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION TWO

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Reed Ranch	Midway	Ross Ford	Totals
110	Administration	783 (25.22)	707 (25.22)	6,260 (25.22)	29,160 (25.22)
120	Expenses	206 (6.63)	186 (6.63)	1,698 (6.90)	7,719 (6.66)
210	Instruction	9,722 (313)	11,111 (396)	77,303 (311)	351,247 (304)
221	Indirect	256 (8.27)	552 (19.70)	5,907 (23.85)	25,150 (21.79)
222	instructional	---	---	1,832 (7.40)	6,329 (5.47)
223	costs.	19 (.60)	16 (.56)	117 (.47)	3,360 (5.66)
224	Non-teacher	89 (2.88)	56 (2.00)	658 (2.65)	6,545 (5.66)
225	salaries	14 (.46)	13 (.46)	114 (.46)	532 (.46)
232	Library	109 (3.53)	94 (3.37)	1,460 (5.88)	18,775 (16.51)
233	Supplies	242 (7.80)	147 (5.29)	142 (5.69)	4,581 (3.96)
235	Science	449 (14.50)	414 (14.79)	726 (2.93)	3,402 (2.95)
236	Phys. Ed.	25 (.81)	16 (.57)	104 (.42)	855 (.74)
237	Ind. Arts	---	---	---	
238	Home Ec.	---	---	---	
239	Other	22 (.72)	20 (.72)	179 (.72)	829 (.72)
240	Educational T.V.	272 (8.78)	246 (8.78)	2,178 (8.78)	10,089 (8.78)

Table 12 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION TWO

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Reed Ranch	Midway	Ross Ford	Totals
510	Bussing	3,197 (103.00)	2,461 (88.00)	13,070 (52.60)	65,378 (56.50)
520	Extra-curr.	---	---	---	
521	Co-curricular	---	---	---	
610	Plant Op.	774 (24.96)	652 (23.34)	6,230 (25.13)	25,174 (28.72)
620	Utilities	324 (10.46)	435 (15.57)	2,620 (10.58)	11,457 (9.91)
630	Supplies	76 (2.46)	64 (2.29)	536 (2.16)	2,534 (2.18)
710	Maintenance	177 (5.70)	714 (25.50)	2,950 (11.27)	14,918 (12.88)
720	Grounds	57 (1.86)	---	39 (.16)	389 (.34)
730	Non-school	20 (.65)	17 (.60)	141 (.57)	669 (.58)
800	Fixed Costs	115 (3.70)	92 (3.28)	820 (3.30)	3,806 (3.29)
1400	Outgoing Trans.	5 (.16)	4 (.16)	39 (.16)	185 (.16)
TOTALS	Direct Costs	9,722 (313)	11,111 (396)	77,303 (311)	351,247 (304)
	Implementary	7,231 (233)	6,906 (246)	47,820 (193)	241,836 (209)
	All Costs	16,953 (546)	18,017 (642)	125,123 (504)	593,083 (513)

Table 13

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES
DIVISION THREE

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Didsbury	Carstairs	Olds H. S.	Sundre
110	Administration	6,350 (25.22)	3,798 (25.22)	8,699 (25.22)	6,020 (25.22)
120	Expenses	1,730 (6.91)	996 (6.63)	228 (6.63)	1,575 (6.63)
210	Instruction	100,730 (394)	72,008 (480)	133,831 (388)	80,565 (338)
221	Indirect	8,900 (35.41)	6,471 (43.10)	12,700 (36.90)	3,148 (13.21)
222	instructional	2,544 (10.15)	2,850 (19.00)	3,167 (9.20)	3,799 (15.90)
223	costs.	2,863 (11.42)	2,688 (19.00)	6,059 (17.61)	2,513 (10.55)
224	Non-teacher	1,275 (5.00)	1,658 (17.90)	1,714 (4.98)	1,324 (5.55)
225	salaries	116 (.46)	69 (.46)	158 (.46)	110 (.46)
232	Library	6,000 (23.45)	3,545 (23.60)	5,668 (11.49)	3,880 (15.96)
233	Supplies	1,253 (4.96)	1,050 (6.69)	1,371 (3.99)	1,496 (6.28)
235	Science	1,215 (4.84)	448 (2.98)	1,182 (3.44)	659 (2.77)
236	Phys. Ed.	289 (1.15)	162 (1.07)	381 (1.11)	233 (.98)
237	Ind. Arts	3,100 (12.37)	449 (2.99)	2,220 (6.42)	1,000 (4.19)
238	Home Ec.	163 (.65)	229 (1.35)	578 (1.68)	69 (.29)
239	Other	181 (.72)	108 (.72)	248 (.72)	171 (.72)
240	Educational T.V.	2,200 (8.78)	1,328 (8.78)	3,180 (8.78)	2,090 (8.78)

Table 13 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY DESIGNATED CATEGORIES
DIVISION THREE

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Didsbury	Carstairs	Olds H. S.	Sundre
510	Bussing	12,749 (50.70)	9,640 (63.50)	15,940 (46.30)	15,100 (63.40)
520	Extra-curr.	---	---	---	45 (.19)
521	Co-curricular	171 (.68)	100 (.67)	244 (.71)	86 (.36)
610	Plant Op.	4,110 (16.37)	3,440 (22.89)	8,072 (23.43)	3,641 (15.31)
620	Utilities	4,804 (19.15)	3,062 (20.40)	7,120 (20.66)	2,722 (11.43)
630	Supplies	555 (2.21)	341 (2.27)	774 (2.25)	514 (2.16)
710	Maintenance	3,060 (12.19)	2,880 (19.19)	10,290 (29.91)	2,479 (10.39)
720	Grounds	30 (.12)	23 (.15)	131 (.38)	159 (.67)
730	Non-school	146 (.58)	90 (.60)	203 (.59)	135 (.57)
800	Fixed Costs	842 (3.35)	517 (3.44)	1,172 (3.41)	784 (3.29)
1400	Outgoing Trans.	40 (.16)	24 (.16)	55 (.16)	38 (.16)
TOTALS	Direct Costs	100,730 (398)	72,008 (480)	133,831 (388)	80,565 (338)
	Implementary	64,686 (257)	45,966 (306)	91,556 (266)	53,710 (229)
	All Costs	185,416 (655)	117,974 (786)	224,387 (654)	134,275 (567)

Table 13 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION THREE

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Cremona	Reed Ranch	Midway	Totals
110	Administration	2,522 (25.22)	565 (25.22)	531 (25.22)	28,485 (25.22)
120	Expenses	663 (6.63)	146 (6.63)	139 (6.63)	5,477 (6.63)
210	Instruction	39,477 (395)	8,000 (364)	9,346 (444)	448,957 (400)
221	Indirect	4,381 (43.80)	182 (8.27)	414 (19.70)	36,196 (32.10)
222	instructional	793 (7.93)	---	---	13,153 (11.65)
223	costs.	4,305 (43.05)	13 (.60)	12 (.56)	18,453 (16.35)
224	Non-teacher	420 (4.20)	---	111 (5.27)	6,502 (5.77)
225	salaries	46 (.46)	10 (.46)	10 (.46)	519 (.46)
232	Library	2,471 (24.71)	78 (3.53)	71 (3.37)	21,633 (19.20)
233	Supplies	540 (5.40)	126 (5.71)	164 (7.80)	6,000 (5.32)
235	Science	359 (3.59)	319 (14.50)	310 (14.79)	4,492 (4.37)
236	Phys. Ed.	114 (1.14)	18 (.81)	12 (.57)	1,209 (1.07)
237	Ind. Arts	834 (8.34)	---	---	7,603 (6.75)
238	Home Ec.	103 (1.03)	---	---	1,142 (1.02)
239	Other	72 (.72)	16 (.72)	15 (.72)	811 (.72)
240	Educational T.V.	878 (8.78)	196 (8.78)	184 (8.78)	10,056 (8.78)

Table 13 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION THREE

Category Number	Category Description	Cost Per Pupil, Per School ($)			
		Cremona	Reed Ranch	Midway	Totals
510	Bussing	12,260 (122.60)	2,260 (102.80)	1,913 (91.00)	755,770 (62.00)
520	Extra-curr.	45 (.45)	---	12 ( )	102 (.09)
521	Co-curricular	40 (.40)	---	5 (.22)	646 (.58)
610	Plant Op.	2,392 (23.92)	549 (24.96)	489 (23.34)	22,693 (20.19)
620	Utilities	2,100 (21.00)	245 (10.96)	327 (15.57)	20,380 (18.00)
630	Supplies	214 (2.14)	192 (2.46)	48 (2.29)	2,638 (2.30)
710	Maintenance	1,290 (12.90)	125 (5.70)	525 (25.00)	20,649 (18.60)
720	Grounds	38 (.38)	54 (1.86)	---	435 (.50)
730	Non-school	56 (.56)	14 (.65)	13 (.60)	657 (.60)
800	Fixed Costs	326 (3.26)	82 (3.70)	69 (3.28)	3,792 (3.37)
1400	Outgoing Trans.	16 (.16)	4 (.16)	4 (.16)	181 (.16)
TOTALS	Direct Costs	39,477 (395)	8,000 (364)	9,346 (444)	448,957 (400)
	Implementary	37,926 (379)	5,194 (236)	5,378 (256)	303,766 (271)
	All Costs	76,403 (674)	13,194 (600)	14,724 (700)	752,723 (671)

Table 14

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION FOUR

Category Number	Category Description	Cost Per Pupil, Per School ($)		
		Didsbury	Carstairs	Olds H. S.
110	Administration	4,670 (25.22)	3,250 (25.22)	8,580 (25.22)
120	Expenses	1,277 (6.91)	855 (6.63)	226 (6.63)
210	Instruction	98,203 (476)	65,936 (510)	157,121 (462)
221	Indirect	6,300 (35.41)	11,201 (86.80)	23,891 (70.40)
222	instructional	3,800 (20.55)	2,985 (23.15)	3,167 (9.32)
223	costs.	2,116 (11.42)	768 (5.95)	9,369 (27.55)
224	Non-teacher	888 (4.80)	933 (7.21)	1,842 (5.41)
225	salaries	85 (.46)	59 (.46)	157 (.46)
232	Library	4,338 (23.45)	3,048 (23.60)	5,600 (16.49)
233	Gen. Supplies	917 (4.96)	864 (6.69)	1,360 (3.99)
235	Science	895 (4.84)	385 (6.69)	117 (3.44)
236	Phys. Ed.	213 (1.15)	138 (1.07)	378 (1.11)
237	Ind. Arts	2,278 (12.37)	286 (2.99)	218 (6.42)
238	Home Ec.	120 (.65)	174 (1.35)	572 (1.68)
239	Other	133 (.72)	93 (.72)	245 (.72)
240	Educational T.V.	1,625 (8.78)	1,132 (8.78)	2,880 (8.78)

Table 14 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION FOUR

Category Number	Category Description	Cost Per Pupil, Per School ($)		
		Didsbury	Carstairs	Olds H. S.
510	Bussing	9,736 (52.60)	9,160 (71.00)	15,710 (21.65)
520	Extra-curr.	---	---	---
521	Co-curricular	126 (.68)	86 (.67)	241 (.71)
610	Plant Op.	3,030 (16.37)	2,950 (22.89)	8,000 (23.43)
620	Utilities	3,545 (19.15)	2,635 (20.40)	7,040 (20.66)
630	Plant Supp.	408 (2.21)	293 (2.27)	765 (2.25)
710	Maintenance	2,250 (12.19)	2,471 (19.19)	1,018 (29.91)
720	Grounds	22 (.12)	19 (.15)	128 (.38)
730	Non-school	107 (.58)	77 (.60)	201 (.59)
800	Fixed Costs	62 (3.35)	444 (3.44)	116 (3.41)
1400	Outgoing Trans.	30 (.16)	21 (.16)	54 (.16)
TOTALS	Direct Costs	98,203 (476)	65,936 (510)	157,121 (462)
	Implementary	48,969 (265)	44,327 (343)	91,805 (270)
	All Costs	146,172 (731)	110,263 (853)	248,926 (732)

Table 14 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION FOUR

Category Number	Category Description	Cost Per Pupil, Per School ($)		
		Sundre	Cremona	Totals
110	Administration	3,335 (25.22)	2,900 (25.22)	22,735 (25.21)
120	Expenses	875 (6.63)	763 (6.63)	3,996 (4.44)
210	Instruction	67,373 (510)	51,845 (450)	440,478 (490)
221	Indirect	6,198 (47.80)	4,381 (38.10)	51,971 (58.60)
222	instructional	3,167 (24.00)	793 (6.90)	13,912 (15.48)
223	costs.	4,412 (33.40)	4,305 (37.40)	20,970 (23.25)
224	Non-teacher	510 (3.86)	345 (3.00)	4,518 (5.02)
225	salaries	61 (.46)	53 (.46)	415 (.46)
232	Library	2,109 (15.96)	2,840 (24.71)	17,935 (19.25)
233	Gen. Supplies	830 (6.28)	622 (5.40)	4,593 (5.10)
235	Science	363 (2.77)	414 (3.59)	2,174 (2.41)
236	Phys. Ed.	126 (.98)	129 (1.14)	984 (1.09)
237	Ind. Arts	554 (4.19)	965 (8.34)	4,301 (4.78)
238	Home Ec.	38 (.29)	130 (1.03)	1,034 (1.19)
239	Other	95 (.72)	83 (.72)	649 (.72)
240	Educational T.V.	1,194 (8.78)	1,010 (8.78)	7,841 (8.78)

Table 14 (continued)

ESTIMATED UNIT COSTS FOR EACH SCHOOL BY
DESIGNATED CATEGORIES
DIVISION FOUR

Category Number	Category Description	Cost Per Pupil, Per School ($)		
		Sundre	Cremona	Totals
510	Bussing	9,000 (68.20)	13,880 (120.50)	57,486 (63.87)
520	Extra-curr.	45 ( )	45 ( )	90 (.10)
521	Co-curricular	49 (.36)	46 (.40)	548 (.61)
610	Plant Op.	2,020 (15.31)	2,748 (23.92)	18,748 (20.83)
620	Utilities	1,505 (11.43)	2,419 (21.00)	17,144 (19.05)
630	Plant Supp.	285 (2.16)	246 (2.14)	1,997 (2.22)
710	Maintenance	1,371 (10.39)	1,482 (12.90)	8,592 (9.55)
720	Grounds	90 (.67)	44 (.38)	303 (.34)
730	Non-school	75 (.57)	64 (.56)	524 (.58)
800	Fixed Costs	436 (3.29)	375 (3.26)	1,433 (1.59)
1400	Outgoing Trans.	21 (.16)	18 (.16)	144 (.16)
TOTALS	Direct Costs	67,373 (510)	51,845 (450)	440,478 (490)
	Implementary	38,764 (293)	41,093 (357)	265,037 (294)
	All Costs	105,137 (813)	92,945 (807)	705,515 (784)

in Olds (the largest centre) had low transportation expenditures ($21.65 for division IV pupils). Rural schools, particularly those not situated in small communities, had the higher expenditures (Reed Ranch and Midway). The highest unit cost was found in connection with division one students in Reed Ranch School at $142.60 per pupil -- nearly 700 percent of the lowest cost.

There were, of course, situations in which the two patterns tended to combine. In schools that offered grades nine to twelve the expenditures were greater because the services offered, in terms of broadened curricula, lower pupil-teacher ratios, and considerably more facilities, were more extensive. Pupil groupings analysed in these situations showed a higher per-pupil expenditure, both in division four and in the school as a whole. These expenditures (that is the operational expenditures connected with the above services) are detailed in the appropriate categories in Tables 11-14.

The third type of expenditure pattern resulted from pro-rating the expenditures by the per-pupil method. This was done from the aggregate expenditure at the county level. Examples include administrative expenditures (category 110) and educational television expenditures (category 240). It also occurred when expenditures were assigned to school accounts and then pro-rated on a per-pupil basis to smaller groupings. This was the case in consideration of utilities and plant operation. In these circumstances schools with higher grade levels tended to show greater per-pupil expenditures. Utilities, for example, were $20.66 per pupil in Olds High School but only $8.25 per pupil in Olds Elementary School. The difference was largely caused by

more floor space per pupil in the secondary school, a factor that was, in turn, a reflection of the curricula and the use of specialized class rooms such as science laboratories, industrial arts rooms, and home-economics rooms. In terms of dollar volume the expenditures were of the greatest difference in heating costs and the least difference in telephones. In terms of percentage of the cost (based on the lowest unit cost) the reverse was true.

Summary. In terms of both dollar flow and of cost per pupil the first type of expenditure pattern (higher expenditure for higher grade levels) was most prevalent. It was not surprising therefore, to find this pattern prevailed through the totals of expenditures. The following table summarizes all the expenditures in terms of divisional level.

Table 15

ESTIMATED COSTS BY DIVISIONAL LEVEL
COUNTY OF MOUNTAIN VIEW

Division	Direct Instructional Cost	Implementary Costs	Total Cost	Total Cost For a Class of 26
1	$291	$216	$507	$13,182
2	$304	$209	$513	$13,338
3	$400	$271	$671	$17,446
4	$490	$294	$784	$20,384

The data showed that the lower expenditures prevailed for division one direct expenditures ($291.00 per pupil) and for division two indirect expenditures ($209.00 per pupil). The highest unit costs were found in division four: $490.00 for direct instruction, and $294.00 for implementary expenditures. A closer analysis of the data, however, would indicate discrepancies which are not readily apparent in the above table. These discrepancies were evident in the more detailed analysis and still more evident in the raw data that were used to build the tables.

The total unit cost for division four pupils was $784.00 or about 155 percent of the unit cost for a division one pupil ($507.00).

ORGANIZATION AND ANALYSIS OF DIRECT INSTRUCTIONAL EXPENDITURES

It has been noted that the direct instructional costs varied with the grade level and varied from school to school. The purpose of this portion of the study is to examine these expenditures in some detail and to discuss the patterns and variations that prevailed.

Organization.

The expenditures were allocated in terms of the commonly recognized courses; that is, a body of instructional presented to a defineable group of students on a recurring basis. The expenditures were determined by prorating the instructor's salary in terms of the portion of the total teaching time each instructor spent involved with that particular course. In cases where the same course was offered two or more times the expenditures were totalled and divided by the number of students to arrive at a unit cost for each of that particular group of students. This permitted re-organization of the data in terms of any selected pupil grouping desireable, and also permitted the development of "average expenditure": a terms used in the tables to express the total cost of all the instruction of a defined course in a county, divided by the number of pupils taking that course. This particular unit cost was used because it facilitated comparison between any given smaller grouping of pupils such as those in one specific school, or those under one specific teacher. It also facilitated comparisons between counties or between schools in two separate counties.

Initial examination of the data indicated that several factors pertaining to school organization would have a large

bearing on the ultimate unit costs. These factors were the numbers of pupils taking the courses, the amount of time each pupil and each instructor spent in connection with the course, and the teachers' salaries (including expenditures for fringe benefits). Tables 16 and 18 are arranged to illustrate these factors. Appendices F and G contain the total tables. Tables 16 and 18 are examples of the full and detailed analysis but for a limited number of courses only.

The total number of courses in the two counties was very large, approximately 3500. This number was somewhat reduced by consolidating courses in any one school. Thus, for example, the grade two science course which was offered three times by three different teachers in the Ross Ford School (County of Mountain View) is cited as one course. The unit cost quoted is based on dollar flow ($998.76) divided by the number of students (82 in three classes) to give a school expenditure of $12.18 per pupil. On the same table the unit cost for grade two science for the whole of the County of Mountain View is also shown. At different places in Appendix G the unit cost for each school offering grade two science is also shown. There is a similar table in Appendix F which cites the unit cost for each school offering the course, and also cites the unit cost for the whole of the County of Lacombe.

Credit Equivalent. High school courses have been given a credit rating by the department of education. This rating corresponds very closely to a total of 1600 course minutes over a school year (one forty-minute period per week for forty weeks). A similar device, termed "credit equivalent" was used to indicate the relative time

connected with each course at the grade levels lower than grade ten. This facilitated the comparison of estimated costs for programs as opposed to single courses. It also gave another estimate (in addition to financial estimates) of the significance attached to each course by the school officials concerned.

The use of some indicator of time in connection with one course enabled more penetrating analysis into other factors affecting course costs because it was possible to insure that the time factor was a constant or to make adjustments to allow for it. The prorating technique used, meant that course costs varied directly with the amount if instruction time. Thus a fifteen credit (or credit equivalent) course that had a unit expenditure of $150.00 dollars cost the same per student-credit as a five credit course that cost $50.00.

Tables 16 and 18 and the tables in Appendices F and G also indicate the number of pupils that took each course and the grade level(s) of the pupils. The courses are grouped by grade levels and these are further grouped by schools. The courses are in order by the grade level within each school, the lowest grades first. Each group of grades is preceeded by the name of the school that the unit costs apply to.

Analysis: County of Lacombe.

The number of separate courses offered in the eleven schools was about 1,080. The number of students per course varied from 1 (Drafting 22, Lacombe Composite High School) to 36 (Language Arts 7, M.A.C. School). The number of credit equivalents per course varied from .625 (Library 6, Blackfalds School) to 15 (vocational courses in

Lacombe Composite High School). The unit cost varied from $4.19 (Library 3, M.A.C. School)to $3,978.75 (Drafting 22, Lacombe Composite High School). The average cost for a one-credit course was about $10.10, for a 5 credit course about $50.50. The mean credit-equivalent per course was 2.88 in elementary schools, and about 3.7 in secondary schools. In high school the mode was 5 credits.

Dominating Influences. The dominating influence in any analysis of the County of Lacombe-course cost was the presence of Lacombe Composite High School and, to a lesser extent, the presence of Lacombe Elementary School.

In the first case, the high school was larger than the other three high schools combined, and in addition, offered a wider variety of courses. In the second case; the Lacombe Elementary School, the largest school in the county, dominated the data by the sheer number of students in that school. In effect, the school level financial data were biased toward these two schools by the weight of pupil numbers. Therefore, this analysis constantly tended to reflect examples from these two schools.

The very high cost of several vocational courses in the Lacombe Composite High School (Drafting 22, Electricity 22, Electricity 32, and Horticulture 32 all over $1,000.00 per pupil) reflected a combination of the main factors that tended to drive unit costs up. All these courses were 15 credit vocational courses and all had very low pupil-teacher ratios (5 or less). The same course taught to a class of 25 pupils would cost less than one-fifth the cited unit cost.

Table 16

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Lacombe Elementary School					
Opportunity Class	14	510.71	37.5	N/A	510.71
Upper Opportunity Room	14	615.46			615.46
Opening Exercises	66	12.47	1.25	1	14.39
Home Room Period	83	13.90	1.25	1	14.96
Physical Education	192	7.38	.75	1	16.56
Printing	128	17.10	1.5	1	20.00
Reading	168	76.76	11.0	1	94.58
Library	173	9.11	.75	1	10.87
Spelling	87	24.87	4.0	1	26.35
Arithmetic	129	67.66	7.5	1	68.37
Enterprise	128	13.66	1.5	1	25.96
Science	108	12.02	1.25	1	14.48
Health	61	9.78	.75	1	15.30
Art	137	10.55	1.0	1	18.48
Music	128	8.26	1.5	1	16.65
Opening Exercises	47	9.26	1.25	2	14.96
Home Room Period	103	8.86	1.0	2	14.59
Language Arts	104	36.11	4.0	2	34.65
Printing	164	7.19	1.5	2	14.10
Reading	123	76.68	11.0	2	89.13
Library	75	5.07	.75	2	8.12
Spelling	131	21.44	4.0	2	27.44
Arithmetic	123	39.99	5.0	2	55.27
Enterprise	104	19.26	2.5	2	26.75
Science	104	17.11	2.5	2	25.72
Health	84	6.09	.75	2	10.75
Music	226	10.59	1.75	2	14.12
Art	103	14.65	2.0	2	15.06

Table 16 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Opening Exercises	48	10.09	1.25	3	10.11
Home Room Period	74	13.48	1.5	3	14.24
Physical Education	126	12.05	1.5	3	13.86
Language Arts	126	23.35	3.5	3	25.83
Writing	126	13.97	1.8	3	14.15
Reading	126	59.49	7.8	3	63.12
Library	124	5.62	6.0	3	8.11
Spelling	126	31.33	4.0	3	26.28
Arithmetic	146	39.96	8.0	3	52.55
Enterprise	146	20.35	4.0	3	27.00
Science	146	18.73	3.0	3	21.75
Health	146	12.93	2.0	3	11.71
Music	146	10.77	1.35	3	13.23
Art	124	16.32	2.3	3	14.75
Opening Exercises	81	7.81	1.25	4	7.50
Home Room Period	54	15.00	1.5	4	9.58
Physical Education	108	8.06	1.28	4	14.59
Language Arts	106	23.11	3.7	4	25.60
Writing	106	6.77	1.1	4	9.78
Reading	106	38.33	5.6	4	48.17
Library	106	5.37	.75	4	7.32
Spelling	106	22.01	4.0	4	20.41
Mathematics	106	46.24	6.25	4	47.36
Social Studies	106	29.11	5.0	4	27.42
Science	106	29.42	4.5	4	30.68
Health	106	15.58	1.1	4	13.98
Music	81	13.28	2.0	4	17.88
Art	82	18.19	1.5	4	17.10
Supervised Study	56	9.35	1.0	5	12.16
Physical Education	84	23.76	1.9	5	22.83

Table 16 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Remedial Reading	25	62.14	5.0	5	62.14
Language Arts	129	36.84	5.0	5	38.22
Writing	83	7.19	8.0	5	11.36
Reading	104	48.02	5.0	5	61.12
Library	129	9.53	.75	5	12.62
Spelling	129	22.07	2.5	5	26.29
Mathematics	83	76.71	7.5	5	63.77
Social Studies	129	34.06	4.5	5	34.59
Science	129	27.51		5	38.06
Health	129	12.71	1.8	5	15.17
Music	55	18.48	1.8	5	19.76
Art	129	14.72	1.7	5	22.35
Supervised Study	48	12.08	1.6	6	12.82
Physical Education	86	20.21	1.8	6	16.98
Remedial Reading	21	70.00	5.0	6	70.00
Language Arts	112	28.45	3.5	6	41.21
Writing	55	7.22	.75	6	7.22
Reading	95	52.01	4.0	6	50.98
Library	112	7.29	.75	6	8.93
Spelling	112	18.90	2.5	6	17.71
Mathematics	112	46.20	6.6	6	56.25
Social Studies	112	40.04	4.0	6	44.82
Science	112	46.08	4.0	6	45.91
Health	111	13.89	1.8	6	12.96
Music		12.61	1.8	6	12.97
Art	112	13.95	1.5	6	16.39
Lacombe Composite High School					
Supervised Study	60	18.04	N/A	10-12	11.65
Pre-Employment	14	956.03			956.03

Table 16 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
English 10	132	56.13	5	10-12	63.10
English 13	87	54.35	5	10-12	69.43
Literature 11	94	35.37	3	10-12	38.28
Reading 10	100	28.76	3	10-12	28.11
Social Studies 10	199	67.76	5	10-12	61.07
Mathematics 10	151	49.78	5	10-12	55.35
Mathematics 15	41	85.85	5	10-12	72.74
Biology 10	127	32.59	3	10-12	36.04
Chemistry 10	138	27.35	3	10-12	32.55
Physics 10	133	30.20	3	10-12	28.34
Science 11	46	64.97	5	10-12	103.70
French 10	94	72.41	5	10-12	65.77
Arts 10	21	91.62	5		67.77
Dramatics 10	12	133.51	5		51.90
Physical Education 10	437	23.99	2	10	28.89
Bookkeeping 10	58	58.08	5	10-12	54.19
Business Fundamentals 10	36	46.87	2.5	10-12	42.23
Shorthand 10	18	93.40	5	10-12	93.40
Typewriting 10	84	83.83	5	10-12	57.06
Fabrics and Dress 10	16	118.28	5	10-12	118.28
Foods and Nutrition 10	33	115.24	5	10-12	115.24
Industrial Arts					
General 10	80	124.90	5	10-12	124.90
Automotives 12	14	63.39	5	10-12	63.39
Beauty Culture 12	16	47.89	5	10-12	47.89
Building Construction 12	10	84.49	5	10-12	84.49
Drafting 12	14	94.73	5	10-12	94.73
Electricity 12	10	164.08	5	10-12	164.08
Horticulture 12	15	117.86	5	10-12	117.86
Welding 12	68	63.95	5	10-12	63.95
English 20	72	55.83	5	11-12	56.57
English 23	51	71.00	5	11-12	70.04

Table 16 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Language 22	77	57.22	5	11-12	58.43
Literature 21	16	67.22	5	11-12	72.91
Social Studies 20	26	61.76	5	11-12	62.75
Psychology 20	14	68.29	2.5	11-12	40.41
Sociology 20	22	72.82	5	11-12	58.59
Mathematics 20	98	63.03	5	11-12	64.31
Mathematics 21	16	101.62	5	11-12	117.85
Mathematics 23	33	95.21	5	11-12	95.21
Biology 20	72	31.40	3	11-12	28.52
Chemistry 20	79	27.00	3	11-12	43.79
Physics 20	61	38.07	3	11-12	42.98
Physics 22	32	96.51	3	11-12	96.51
French 20	48	54.08	5	11-12	89.76
Art 21	8	119.50	2.5	11-12	119.50
Dramatics 20	5	190.98	3	11-12	95.61
Law 20	46	36.68	2.5	11-12	57.64
Physical Education 20	48	143.41	5	11-12	115.92
Bookkeeping 20	24	135.97	5	11-12	136.15
Clerical Practice 20	13	125.07	5	11-12	86.09
Merchandising 20	30	112.49	5	11-12	77.45
Shorthand 20	10	168.13	5	11-12	168.13
Typewriting 20	37	88.20	5	11-12	123.54
Fabrics and Dress 20	5	126.17	5	11-12	126.17
Foods and Nutrition 20	6	210.28	5	11-12	210.28
Industrial Arts					
General 20	22	92.30	5	11-12	92.30
Automotives 22	11	243.18	15.0	11-12	243.18
Beauty Culture 22	12	223.23	5	11-12	223.23
Building Construction 22	5	509.32	2.5	11-12	509.32
Drafting 22	1	3,978.75	15.0	11-12	3,978.75
Electricity 22	4	1,236.38	15.0	11-12	1,236.38
Horticulture 22	8	666.07	5	11-12	666.07
Welding 22	13	251.20	5	11-12	251.20

Table 16 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
English 30	134	64.51	5	12	64.96
English 33	75	72.34	5	12	74.70
Social Studies 30	85	64.16	5	12	78.81
Social Studies 36	108	59.34	5	12	63.15
Economics 30	25	76.96	5	12	70.61
Mathematics 30	90	71.68	5	12	81.60
Mathematics 31	22	76.42	5	12	76.42
Mathematics 32	19	92.20	5	12	116.52
Biology 30	82	64.68	5	12	73.65
Chemistry 30	71	60.22	5	12	60.22
Physics 30	59	78.71	5	12	96.54
Physics 32	12	128.68	5	12	126.68
French 30	44	77.35	5	12	97.76
Physical Education 30	48	71.71	5	12	71.71
Accounting 30	10	162.59	5	12	126.93
Business Machines 30	23	141.88	5	12	141.88
Business Organization and Management	12	140.62	5	12	140.62
Office Practice 30	14	116.14	5	12	116.14
Shorthand 30	9	186.81	5	12	186.81
Typewriting 30	22	148.33	5	12	183.87
Fabrics and Dress 30	5	252.33	5	12	252.33
Automotives 32	10	267.50	15	12	267.50
Beauty Culture 32	10	267.88	15	12	267.88
Building Construction 32	4	636.65	15	12	636.35
Drafting 32	5	795.75	15	12	795.75
Electricity 32	3	1,648.51	15	12	1,648.51
Horticulture 32	5	1,065.72	15	12	1,065.72
Clive School					
Physical Education	25	37.59	3	1	16.56
Printing	25	31.40	2.5	1	20.00

Factors. The general factors that tended to raise the unit cost for any given course were the number of pupils, the expenditure for instructors' salaries (including fringe benefits and temporary teachers), and the number of minutes of instruction per year. These are commonly recognized, but when any or all of these factors were combined, the total effect on unit cost for direct instruction could be startling, resulting in very high cost as in the cases cited above, or, if the factors were reversed, in a very low cost. It was desirable therefore to examine the cost of any particular course in light of all three factors combined.

The most important factor appeared to be the number of pupils enrolled in a given course. In courses in which fewer than 8 pupils were enrolled the unit cost was, in every case, over $100.00 per pupil, and most cases was well over $200.00 per pupil. This situation tended to occur under the following circumstances (in order of frequency):

1. Pupils enrolled in vocational patterns in senior high school.

2. Pupils enrolled in senior high school courses in a smaller high school in a situation in which there were too few pupils in that school interested in a pattern including that particular course. Typical examples were senior matriculation courses at the grade 11 or 12 level such as Physics 30 ($528.61 for each of 5 pupils at the Eckville school) or Mathematics 31 ($152.81 for each of 5 pupils at the M.A.C. school).

3. Remedial courses at the elementary school level.

4. In small schools where the number of pupils enrolled in a

given grade was too large to warrant combining with another grade but not as large as the school or county average. A typical number would be about 18 pupils, but was as low as 15 (grade 3, Clive). A similar situation could occur when there were too many students for one class room but too few for two full classrooms (about 35 to 40 pupils).

5. Opportunity rooms.

The second most important factor appeared to be the instructors' salaries. High salaries tended to occur in the following situations:

1. In most schools the higher salaries were found in connection with the higher grades (grade one was an exception). This partly reflected the tendency of the higher salaried administrators to do some teaching, nearly always in the highest grade in the school. Thus courses in grades six (Lacombe Elementary School), eight (Satinwood School), nine (Mirror, Clive, Blackfalds and Lacombe Junior High School), and twelve (M.A.C., Bentley Secondary School and Eckville School)tended to indicate higher unit costs.

2. Higher expenditures for salaries were found in secondary schools and in particular in schools with division four (and in Blackfalds, division three).

3. Higher salaries were often found in schools in larger centers, particularly Lacombe.

4. Higher expenditures for salary per course were found in situations where the teachers had more release time (spares). Since the salaries were pro-rated on the basis of the portion of the total teaching time, exclusive of relief time, the expenditures per course tended to be higher if the teacher had more release time (most

secondary schools) or if the school day was shorter (most elementary schools) or both (elementary-junior high schools).

The third factor cited was the course length (number of credit equivalents). This factor was important in considering other factors because longer course time emphasized the effect of other factors, but was less important in its own right because each group of students partaking in a longer course tended to take fewer courses or, (in elementary school), shorter courses, along with the one or two longer ones.

The culmination of all these factors was reflected in Lacombe Composite High School. The wide variety of courses, often overcame the economy of scale found in connection with larger schools, the higher expenditure for salary per-teacher-position as found in the larger centers, and as found in division four schools, and the longer courses offered in the vocational pattern, all tended to result in higher unit costs.

Examination of the Cumulative Effect of All Factors. No two courses examined were exactly identical and no course could be stipulated as a good example of the mean or mode for all factors pertaining to unit costs. The following description is for a hypothetical course, and is designed to illustrate the effect that each factor and some selected combinations of factors had on the unit cost. The parameters selected were representative of the situation as found in the County of Lacombe but were not exact copies of any one course. They are: 20 pupils per course, five credit equivalents per course, and $7,721.00 expenditure for direct instruction for each

teaching position. The modifications of these parameters do not go to the extremes that some few courses in the county did, but rather were chosen as illustrations of extreme situations that occurred more than once within the county. Table 17 illustrates the effect on unit cost of each of the factors and various combinations of the factors.

Table 17

EFFECT OF FACTOR VARIATION ON UNIT COSTS

Type of Modification	Number of Pupils	Credit Equivalent	Salary % of average	Class Expenditure	Unit Costs
Typical	20	5	100	$1,010.00	$ 50.50
Number of Pupils	40	5	100	1,010.00	25.25
	30	5	100	1,010.00	33.65
	10	5	100	1,010.00	101.00
	8	5	100	1,010.00	126.25
	5	5	100	1,010.00	202.00
	4	5	100	1,010.00	252.50
Credit Equivalents	20	1	100	202.00	10.10
	20	2	100	404.00	20.30
	20	3	100	606.00	30.30
	20	5	100	1,010.00	50.50
	20	10	100	2,020.00	101.00
	20	15	100	3,030.00	151.50
Salary	20	5	60	606.00	30.30
	20	5	80	808.00	40.40
	20	5	130	1,313.00	65.65
	20	5	160	1,616.00	80.80
Minimums	40	1	60	60.60	3.30
Maximums	4	15	160	24,240.00	1,212.00
Maximums of Credit Equivalents and Pupil Numbers	4	15	100	15,150.00	757.50

As indicated in the table, the hypothetical but typical examples illustrate that increases in unit cost were compounded as each factor entered into consideration. The data also illustrate that the most significant factor was the number of pupils in the class room. The second most significant factor, for a given course, was the length of the course in time. The third most significant factor was the expenditure for salary and fringe benefits to the instructor.

Analysis: Mountain View.

A preliminary examination of the school situation revealed the main factors that contributed to higher unit costs for any given course. These were: the amount of instructional time taken, the number of students under one instructor, the total instructional expenditure (salary), and the total amount of time spent in instruction by a given teacher. One purpose of this study was to collect and organize the data in such a way as to indicate the relative importance of these factors.

It is clear from the data that the most significant factor was the number of pupils assigned to one instructor. In situations where the number of pupils was lower than 20 the unit cost was relatively high. In situations where the number of students dropped to 8 or less the unit cost was much higher.

Low pupil-teacher ratios tended to occur in the following situations, and these, therefore, reflected a higher unit cost:

1. High unit costs were found in connection with remedial instruction, where a few students (usually less than 10) were assigned

Table 18

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Didsbury High School					
Supervised Study	519	14.69	N/A	7-12	20.48
Reading	31	17.84	2.0	7-9	24.77
Creative Writing	48	12.60	4.0	7-9	21.90
Social Studies Option	107	30.02	3.3	7-9	25.15
Community Economics	63	29.69	3.0	7-9	38.38
Geography	84	22.43	2.0	7-9	30.05
Science Option	214	20.20	2.0	7-9	26.45
Music	56	19.75	2.0	7-9	27.41
Drama	90	12.27	2.0	7-9	24.28
Home Room Period	74	12.33	1.5	7	12.33
Physical Education	74	37.29	2.0	7	28.70
Language Arts	73	49.61	6.0	7	55.37
Mathematics	97	61.61	5.0	7	43.78
Social Studies	97	53.91	6.0	7	46.87
Science	95	71.73	6.0	7	60.84
Health	49	37.54	2.0	7	21.91
Arts and Crafts	72	30.73	2.0	7	41.20
Home Room	46	9.92	1.0	8	9.92
Physical Education	48	43.46	3.0	8	32.14
Language Arts	73	75.61	7.0	8	57.41
Mathematics	73	53.75	5.0	8	46.07
Social Studies	73	60.15	6.0	8	46.41
Science	73	53.75	5.0	8	38.40
Health	48	19.01	2.0	8	19.02
Home Economics	42	54.77	4.0	8	58.35
Industrial Arts	39	30.17	4.0	8	30.17
Guidance	100	20.50	1.5	9	16.71
Physical Education	82	24.99	3.0	9	25.53
Language Arts	74	95.68	6.0	9	75.65

Table 18 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Mathematics	75	62.95	5	9	55.43
Social Studies	75	30.23	5	9	52.83
Science	75	62.95	5	9	53.13
Health	82	16.78	1	9	18.90
Home Economics	45	51.12	4	9	43.39
Industrial Arts	48	24.51	4	9	24.51
English 10	22	67.76	5	10-12	58.57
Social Studies 10	82	70.29	5	10-12	65.08
Mathematics 10	54	47.33	5	10-12	38.36
Mathematics 15	23	38.59	5	10-12	47.39
Biology 10	48	42.80	3	10-12	28.43
Chemistry 10	52	24.40	3	10-12	25.64
Physics 10	41	30.95	3	10-12	30.14
Science 11	28	31.70	5	10-12	55.51
French 10	40	51.36	5	10-12	44.83
Drama 10	16	108.53	5	10-12	87.40
Physical Education 10	70	16.49	2.5	10-12	31.84
Shorthand 10	14	224.57	5	10-12	93.80
Typing 10	64	29.44	6	10-12	41.62
Home Economics 10	17	108.47	5	10-12	65.64
Foods & Nutrition 10	26	73.73		10-12	70.15
Drafting 10	2	146.25	6	10-12	146.25
Industrial Arts 10	56	59.98	5	10-12	78.05
English 20	76	62.08	5	10-12	58.93
English 23	15	46.21	5	10-12	82.76
Language 22	56	57.63	5	10-12	62.67
Literature 21	14	124.04	2.5	10-12	63.64
Social Studies 20	48	58.01	5	10-12	52.07
Geography 20	19	48.35	5	10-12	53.75
Sociology 20	29	51.40	5	10-12	42.92
Mathematics 20	49	52.16	5	10-12	52.54
Mathematics 21	16	55.47	5	10-12	67.19
Biology 20	18	56.75	3	10-12	59.99
Chemistry 20	36	46.03	3	10-12	35.64

Table 18 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
French 20	27	76.09	5	10-12	49.69
Dramatics 20	10	86.26	5	10-12	86.26
Law 20	27	31.95	2.5	10-12	44.64
Clerical Practice 20	10	314.39	5	10-12	100.23
Typewriting 20	22	71.20	5	10-12	65.85
Drafting 20	2	146.25	3	10-12	146.25
Industrial Arts General 20	31	79.65	4.3	10-12	90.94
English 30	23	69.65	5	12	59.54
English 36	14	114.42	5	12	114.42
English 33	16	46.21	5	12	80.62
Social Studies 30	60	46.41	5	12	62.01
Mathematics 30	17	172.64	5	12	76.45
Mathematics 36	22	66.70	5	12	66.70
Mathematics 31 (calculus)	9	163.05	5	12	169.49
Biology 30	12	171.20	5	12	136.67
Chemistry 30	36	92.69	5	12	76.26
French 30	15	136.96	5	12	93.61
Dramatics 30	3	287.53	5	12	287.53
Typewriting 30	18	87.02	5	12	111.71
Drafting	2	146.25	3	12	146.25
Industrial Arts General 30	12	157.01	5	12	110.56
Ross Ford Elementary					
Physical Education	N/A	103.04	-	1-6	103.04
Remedial Reading	5	273.50	-	1-6	273.50
Speech Therapy	2	755.87	-	1-6	775.87
Opening Exercises	80	12.60	1.25	1	11.72
Home Room Period	80	26.73	2.625	1	19.54
Physical Education	80	13.74	1.125	1	10.77
Printing	80	25.30	2.5	1	16.88
Reading	80	147.17	11.9	1	105.20

Table 18 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Spelling	80	18.95	1.875	1	18.13
Arithmetic	80	52.41	5.01	1	42.60
Enterprise	80	26.73	2.625	1	22.91
Science	80	7.49	.75	1	13.72
Music	80	15.26	1.5	1	14.86
Art	80	23.03	2.25	1	14.71
Opening Exercises	82	8.10	1.25	2	12.33
Library	82	5.66	1.0	2	7.60
Physical Education	82	8.18	1.125	2	7.65
Language	82	16.29	2.5	2	25.93
Printing	82	14.57	2.5	2	15.54
Reading	82	70.43	10.25	2	67.49
Spelling	82	21.64	7.5	2	21.46
Arithmetic	82	32.07	4.75	2	35.54
Enterprise	82	23.54	4.625	2	23.65
Science	82	12.18	2.2	2	16.67
Health	55	7.95	2.2	2	7.36
Music	82	7.99	1.0	2	7.25
Art	82	10.69	3.4	2	11.07
Opening Exercises	90	17.26	2.5	3	14.16
Library	60	7.45	1.125	3	9.00
Home Room Period	30	7.83	1.25	3	8.31
Physical Education	90	11.76	1.75	3	12.60
Language Arts	90	18.20	3.25	3	22.35
Printing	30	9.44	1.5	3	13.16
Reading	90	53.12	8.125	3	60.30
Spelling	90	14.33	1.75	3	20.56
Arithmetic	90	35.52	5.5	3	42.65
Enterprise	90	24.09	2.75	3	28.11
Science	90	17.34	2.75	3	25.15
Health	60	12.45	1.875	3	10.08
Music	90	8.96	1.375	3	11.69
Art	90	8.11	1.125	3	11.68
Library	58	4.83	.75	4	9.14

Table 18 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Physical Education	84	10.29	1.5	4	10.12
Language Arts	84	38.69	4.375	4	31.34
Writing	86	9.37	1.1	4	11.87
Reading	84	38.69	4.375	4	56.20
Spelling	86	12.14	2.0	4	16.90
Mathematics	84	51.61	4.375	4	47.46
Social Studies	84	52.13	7.5	4	45.44
Science	84	15.59	2.25	4	18.79
Health	85	10.64	1.5	4	10.60
Art	84	5.14	1.5	4	7.82
Music	86	10.51	.75	4	11.19
Library	55	14.97	1.125	5	9.65
Home Room	56	9.98	.75	5	8.50
Physical Education	84	11.10	1.375	5	12.72
Language Arts	81	20.62	2.25	5	26.67
Writing	83	7.24	.75	5	9.75
Spelling	81	26.44	2.625	5	20.12
Literature	81	68.94	7.5	5	70.05
Mathematics	81	71.16	7.0	5	58.02
Social Studies	81	56.90	7.0	5	67.16
Science	81	14.10	1.75	5	37.97
Health	84	6.02	.75	5	12.03
Music	81	13.74	1.5	5	13.31
Art	81	14.26	1.5	5	11.69
Library	82	13.84	.75	6	15.74
Home Room Period	82	5.28	1.25	6	6.03
Physical Education	109	15.85	1.0	6	11.28
Language Arts	81	20.60	8.75	6	25.04
Reading	84	45.67	7.5	6	43.05
Spelling	81	19.37	3.0	6	19.60
Mathematics	109	56.61	7.0	6	46.83
Social Studies	81	73.29	3.3	6	49.49
Science	81	24.68	1.5	6	22.46
Music	114	16.84	1.5	6	19.66
Art	54	12.08	1.5	6	13.00

to one instructor. An example was the remedial mathematics in the Carstairs School; 7 students were instructed at a cost of $289.42 per pupil. In contrast, the regular mathematics six course, with a full complement of about 27 students in the class room, cost only $60.57 per pupil.

2. In some high-school courses, particularly in the vocational group of courses and particularly in grade twelve courses, the number of students wishing to follow a pattern involving that course was not sufficient to even partially fill a classroom. Thus Physics 30 in Sundre School (5 pupils at a unit cost of $236.46) or Math 31 in the Carstairs school (5 pupils at a unit cost of $249.65) involved higher expenditures per pupil than similar courses offered to a larger number of students.

It is not always clear from the data cited in Appendix G just how many students were assigned to one instructor because in many situations one instructor would offer instruction to two or even three levels at the same time. These data were, however, examined in detail and the observations made above were very pertinent. The most significant factor in the determination of unit costs for any given course was the number of pupils involved in that course; a statement that was emphatically true when the number of pupils per instructor dropped below 8.

Another important factor in assessing the ultimate unit cost of a course was the amount of instructional time the student received. This was expressed in the "credit equivalent" column in Table 18, each credit equivalent being equal to 40 minutes of instruction in a five

day week. In the consideration of schools not following 40 minute modules or the five day week, the credit equivalent was adjusted to the established standard. The equivalent varied from .5 credits (20 minutes per week) for the home-room period in grade three in the Olds Elementary School to 13.25 credit equivalents for the grade one reading in Carstairs School.

All other factors being equal, the unit cost varied directly with the credit equivalents, so it was not surprising to find that many of the higher cost courses were extensive in time as well as monetary expenditure. The more lengthy courses in the first grades were reading and/or language arts courses. In upper elementary school the language arts remained important but mathematics also received considerable attention. In junior high school the language arts course was about 20 percent of the total. In high school the longer courses tended to be vocational courses when offered, but there was no special emphasis when vocational courses were not offered. There were a few anomalies in the data, in particular when arithmetic received more emphasis in the lower grades, as was the case in Carstairs School. Arithmetic in grade one was offered for an average of 420 minutes per week.

It is worth noting that both the factors mentioned above were self limiting. In the first case (pupil-teacher ratio) only a relatively few unit costs were very high because as soon as more students were found in a particular course the unit cost tended to drop. The overall expenditure (not per-pupil expenditure) was limited by other factors, not by the number of pupils in the course. Nevertheless,

the fact remained that in many cases more students could have benefited from the same direct instruction with only a neglible increase in direct instructional expenditure.

The second case was even more self limiting. In most schools the total credit equivalent per student was only 37.5 (40 in the case of high school students). Thus if a student was involved in 13.25 credit equivalents of reading and 10.5 credit equivalents of arithmetic (Carstairs, grade one) there remained only about 11 credit equivalents to be spread among the other courses. Given the same instructor and the same size class a credit equivalent under any course name cost the same amount per student.

The third major factor, expenditures on teachers salaries, was not self limiting. It was evident in the data that higher salaried teachers were often found in positions involving instruction to the higher grade levels and with schools in larger centers. Thus higher salaries and higher unit costs were found in the Didsbury High School, in Olds High School, and in Carstairs School. There appeared to be no relation between the courses themselves and the expenditures for salary other than the relative grade levels of the courses and the number of credits or credit equivalents involved.

Class enrollment in the Mountain View County varied from 5 students per instructor to 35. The latter is 700 percent of the lower figure. Thus, all other factors aside, the variation in unit cost would be 700 percent. The mean pupil-teacher ratio, for the county as a whole was 21.1 to 1. A class of only 5 pupils would result in a unit cost 322 percent higher than the county average.

The average expenditure on salary for each teaching position (this included temporary teachers and fringe benefits) was $7,726.00. The highest expenditure was $12,730.00,the least was $5,403.00. In the first case the effect on unit cost would be 165 percent of the average unit cost and 235 percent of the minimum unit cost (other factors viewed as a constant).

Mere consideration of the possible range of variation was insufficient to prove that the most crucial factor was the number of students per instructor, but because the range was so much greater, and because variations in class load occurred many times, it was highly indicative.

The third factor, amount of pupil time in a given course, was also important but was self limiting in the sense that regular full time students required a total number of minutes no matter how the time was divided. This factor was important in the explanation of why courses such as reading or language arts seemed relatively so expensive, and was also useful in the determination of exactly how much effect other factors had.

Summary.

The two counties were similar with respect to the unit costs for direct instruction in that the unit cost in the County of Lacombe was $10.10 per student per credit equivalent, and in the County of Mountain View was $10.80. They differed, however, in the pattern of unit costs; the County of Lacombe reflected a few courses that were allocated very high expenditures. This was largely because of two factors; few pupils in that course and 15 credit courses. Because

such courses were few in number and encompassed few units, the mean for the large number of courses involved was negligibly affected. The slight difference in unit costs noted between the two counties can be accounted for by the slightly higher average expenditure per-teaching position noted in the County of Mountain View.

Any financial advantages noticeable from large numbers of pupils applied to the classroom level but often not to the school level, particularly not in the County of Lacombe. Larger elementary schools with sufficient students in each grade to arrange for well filled classrooms (over 24 pupils) did show considerable economy of scale. Lacombe Elementary School was allocated an expenditure of only $8.00 per pupil per credit-equivalent, Olds Elementary School was allocated $8.20 per pupil per credit equivalent. This compared very well with the county averages.

The question of economy of scale in schools with division three or four was not so easily interpreted. There appeared to be some economy if the school had sufficient pupils to ensure a good representation in each classroom. If the school was small (Eckville, division four) or if the school offered a large number of courses in relation to the number of pupils (Lacombe Composite High School) then economy of scale was lost. The unit-costs-per-credit-equivalent of each of the above schools was $18.25 and $14.50 respectively.

The same factors accounted for differences in unit cost in each of the two counties. These factors were: (1) the number of pupils enrolled in the course, (2) the length of the course, and (3) the expenditure per teaching position. The factors tended to go

somewhat more to extremes in the County of Lacombe, but tended to have more frequent bearing in the County of Mountain View. The relative weight of each factor also varied between counties, the third being more important than the second in the County of Mountain View. All the factors tended to combine with respect to a few vocational courses in Lacombe Composite High School and with respect to many courses in the small high school in Eckville. There was a similar combination of weighty factors in a few senior matriculation (grade twelve) courses in each of Didsbury, Sundre, and Olds High schools.

Although there was a slight tendency to find expenditures for each teaching position to be higher in the larger centres, this factor was outweighed by the economy of scale found in the larger elementary schools and by the tendency for higher expenditures to be found in connection with higher grade levels. Thus the lowest unit costs per credit equivalent were found in the lower divisions of schools in Lacombe, Carstairs, Sundre and Cremona.[1]

The difference between expenditures for elementary school instruction and secondary school instruction were less marked in the County of Mountin View than in the County of Lacombe.

There was considerable evidence that unit costs for specific courses or specific types of courses varied with the grade level as increasing emphasis was placed on them. Still other courses had decreasing importance attached to them at higher grade levels, and

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[1] There were some anomalies in this general situation, notably division one of Bentley Elementary School (lower than signified) and Ross Ford school (higher than signified).

received lower allocations. A third type of course was also noted. This type received relatively the same attention in each of the grade levels. In this last case variation in unit costs depended on the other factors cited above.

An example of the increasing attention, both in time and money, paid to a certain type of course would be any of the science courses. An example of less importance placed on a given type of course in the higher grade levels would be the language arts courses, particularly reading. An example of relatively constant attention paid to one type of course would be the similar allotment of time and money devoted to the physical education courses at the various grade levels.

Some courses did not appear in the analysis until secondary school grade levels were examined. These included home economics, industrial arts, and vocational courses. Some courses tended to vanish at the higher grade levels (fine arts, home room, and spelling courses). One course, guidance, appeared in junior high school only, almost always in grade nine only.

A detailed examination of the relative structure and interrelationships of the courses would require analysis based on programs. This is the topic discussed in the next part of this chapter.

UNIT COST ANALYSIS: PROGRAMS

Introduction.

A program consists of a number of specified courses that are, in some way, related to each other. The unit cost of a program consists

of the total of the unit costs for each of these courses, plus the appropriate implementary costs. Both of these parameters have been established and are reported in the previous two sections.

There are, of course, many programs. Some of these are clearly recognized and commonly described, both in the literature and in the day-to-day operation of the schools. The most common view of a program consists of the totality of those courses which constitute a grade, in particular a grade for a specified pupil.

It was very easy, therefore, to define the grade one or grade two program in a small school such as Midway in the County of Mountain View or Satinwood in the County of Lacombe. It was not so easy to describe the grade program in larger school where there were a variety of teachers teaching that grade level (with a variety of expenditures for direct instruction) and a variety of emphases placed on each subject within the program.

Another type of program is the combination of similar courses through a specific series of grades. The language arts program in elementary schools, for instance, would consist of all the language, reading, phonic, and spelling courses offered in grades 1 to 6. To find the total cost of such a program would necessitate adding the unit costs for each of the various courses and adding the appropriate implementary costs to arrive at an operational unit cost for a program.

There are many other programs that might be mentioned or analysed from the data presented in the second and third parts of this chapter. Indeed, when one considers that programs may continue over a period of years, and that students follow a wide variety of different

options and different patterns in secondary schools, the number of programs that could be analysed runs into the thousands.

School officials and other persons interested in analysing the unit costs for various programs have differing motivations for selecting a specific program and differing questions in mind when they make the analysis. The purpose of this section of the study is to indicate the procedures for making such an analysis and to illustrate the procedure with a few examples of actual program unit costs based on the data as developed in earlier portions of the study. A secondary purpose is to indicate how the development of program costs can be used as one basis of decision making.

Program Analysis: County of Lacombe.

Table 16 and Appendix F contain the unit cost for each course at the grade, school and county levels. Tables 6 to 9 contain the implementary costs for the divisional groupings at the school and county levels. It was possible to describe any program cost in terms of direct costs or in terms of implementary costs by combining the data cited in the above named tables and appendix.

Procedure. The program unit cost was determined by the following steps:

1. Determination of the specific program to be analysed. This was defined in terms of the courses involved and pupil grouping involved.

2. Determination of the unit cost for each course. These were cited in the "expenditure per pupil" column in Appendix F. If

the pupil grouping involved all the students in the county the column headed "county average" was used to find the unit costs. If two or more groupings were combined to make a larger grouping, it was necessary to combine the groupings on the basis of expenditure (unit cost times the number of pupils) and subsequently divide by the number of pupils to find the unit cost. Expenditures were additive; unit costs were not.

3. The unit costs as found for each course were added to arrive at a unit cost for direct instruction for the program.

4. Determination of how much time the program required was done by adding the number of "credit equivalents".

5. The implementary costs are cited in Tables 6 to 9. The total from step 4 was used as a means to determine what portion of the implementary expenditure should be allocated to the program as specified. This was the implementary cost of the program and was added to the direct instructional cost to determine the total cost of the program.

Grade Three Program: Lacombe Elementary School. The following program is based on the data presented in Table 6 (page 84), Table 16 (page 122), and Appendix F (page 176). The program was specified as those courses which were taken by a grade three student in Lacombe Elementary School in the school year 1969-1970. The courses, and the unit costs, are listed in the following table.

Table 19

COURSES AND UNIT COSTS FOR DIRECT INSTRUCTION: GRADE THREE, LACOMBE ELEMENTARY SCHOOL

Course	Unit Cost	Course	Unit Cost
Opening Exercises	$10.09	Spelling	$31.33
Home Room Period	13.48	Arithmetic	39.96
Physical Education	12.05	Enterprise	20.35
Language Arts	23.35	Science	18.73
Writing	13.97	Health	12.93
Reading	59.49	Music	10.77
Library	5.62	Art	16.32

The program consisted of 14 courses which varied in cost from $5.62 per pupil (Library) to $59.49 per pupil (Arithmetic). The total was $288.44. The implementary costs are shown in Table 6 and were (for division one pupils, Lacombe Elementary School) $181.00. This represents the total implementary cost and is appropriate to the program because the program also represented a full school year. Therefore, the program unit cost for this particular program at this particular time was $469.44.

Grade Ten Matriculation Program: County of Lacombe. The program in this example was for the county as a whole, that is the average unit cost for a matriculation program at the grade ten level for the County of Lacombe. The specified matriculation program for grade ten had several possible variables. It might have been as short as 30 credits or as long as 40. Students were permitted some flexibility in choosing the specific courses. Therefore this program is

defined by the courses specified. The total unit cost varied with the choice of courses and varied with the pupil grouping (that is in different schools). To define a program with sufficient detail to discuss unit costs both the courses and the pupil groupings had to be specifically identified. The unit cost for the program is shown in the following table.

Table 20

COURSES AND UNIT COSTS FOR DIRECT INSTRUCTION: GRADE TEN MATRICULATION PROGRAM: COUNTY OF LACOMBE

Course	Credits	Unit Cost
English 10	5	$63.10[a]
Literature 11	3	38.28
Social Studies 10	5	61.07
Mathematics 10	5	55.35
Biology 10	3	36.04
Physics 10	3	28.34
French 10	5	65.77
Physical Education 10	2	28.89
Dramatics 10	5	51.90
Total Direct Instruction	36	428.74
Implementary Instruction		408.28[b]
Total Unit Cost for the Program		837.02

a. From Table 16 b. From Table 9

Library Program: County of Lacombe. This third example of program analysis is an examination of the cost of providing library facilities to the students in the County of Lacombe. This program is

defined in terms of the courses (Library), the pupil groupings (all pupils by grade levels) and the implementary costs. In this case, however, it was possible to determine implementary costs specifically assignable to the subject area so these too, have been included in the total cost of the program. The appropriate allocations to this program are illustrated in the following table.

Table 21

LIBRARY PROGRAM: COUNTY OF LACOMBE

Course	Grade	Unit Cost	Implementary Cost	Total Cost
Library	1	$10.87[a]	$17.00[b]	$27.87
Library	2	8.12	17.00	25.12
Library	3	8.11	17.00	25.11
Library	4	7.32	17.09	24.41
Library	5	12.62	17.09	29.71
Library	6	8.93	17.09	26.02
Library	7	16.30	22.42	38.72
Library	8	17.29	22.42	39.71
Library	9	8.30	22.42	30.72
	10		20.20	20.20
	11		20.20	20.20
	12		20.20	20.20

a. From Table 16 b. From Tables 6 to 9

The cost of the library program for each grade varied from 20.20 in grades 10, 11, and 12, to 38.72 in grade 7. There were no course costs in connection with high school grades because library as a subject was not allocated time in high school.

It would be misleading to add this data to arrive at a

"program" cost because the results cited are for more than one unit and, in addition, are idiosyncratic. If library costs were to remain constant over a period of some years then the total of the costs cited in Table 21 would be equal to the total cost of providing library facilities to one student thoughout twelve years of schooling.

Summary. The unit cost for any program could be found by the relatively simple addition of the unit costs for the specified courses. However, the program must be defined in exact terms of the courses included and of the pupil groupings. If more than one-pupil grouping was to be included in any analysis of a specified program, then the unit costs as cited must be combined on the basis of total expenditure, not on the basis of combining the unit costs.

Program Analysis: County of Mountain View.

The analysis and reporting of the unit costs, both for direct and implementary instruction, were the same in both counties analysed. Thus the techniques for analysing any given program on the basis of the data cited in the second and third parts of this chapter are also the same. These are reported on page 147.

The following examples of program analyses are intended to further clarify the analytical procedures and to further indicate the wide scope of the possible analyses.

Matriculation Program: Didsbury High School. This program analysis is an illustration of how a given financial analysis can encompass the variables in the financial data that result from offering students a choice of courses within an established pattern. The two

programs outlined represent the minimum and the maximum expenditure that was used to get a student through one year (grade eleven) of the matriculation program. The differences reflected come from differences in the unit costs of the various possible courses permitted in this pattern.

Table 22

PROGRAM ANALYSIS: GRADE ELEVEN MATRICULATION PATTERN, DIDSBURY HIGH SCHOOL

Course	Credits	Unit Cost (minimums)	Unit Cost (maximums)
English 23	5	$ 46.21	
Sociology 20	5	42.92	
Mathematics 20	5	52.16	
Chemistry 20	3	35.64	
Law 20	2 or 3	31.95	
French 20	5	76.09	
Geography 20	5	48.35	
Typewriting	5	71.20	
Total	35 or 36	404.52	
English 20	5		$ 62.08
Social Studies 20	5		58.01
Mathematics 20	5		52.16
Biology 20	3		56.75
Clerical Practice	5		314.39
Literature 21	2 or 3		124.04
Drafting 20	5		146.25
Dramatics 20	5		86.06
Totals	35 or 36		899.74
Implementary Costs		363.00	363.00
Total		767.52	1,262.74

Even in a situation limited to one pattern in one grade in one school the program unit cost varied widely. The program analysis revealed the extent of that variation, the specific reasons for the variation, and the absolute amounts of each program. The difference between the maximum cost ($1,262.74) and the minimum cost ($767.52) was about $495.22, or about 65 percent of the minimum cost.

Comparison of Grade Eight and Grade Nine Programs. A careful selection of the programs to be analysed made it possible to standardize certain factors. Any cost differences shown in such an analysis, are therefore, a result of any factors that remained variable. In examing the grade eight and grade nine programs in Didsbury High School, it was noted that the school was departmentalized, that is the same teachers taught both grades. In comparing the unit costs of both programs the differences caused by differences of expenditure for salary were therefore minimized.

Students in this school were allowed some flexibility in their choice of courses. By carefully eliminating any difference in choices the two programs became common on the basis of total credit equivalents as well as expenditure for salaries. Since both programs referred to students in the same division of the same school, the implementary expenditures in both programs were equal. The principal remaining factor was the number of students enrolled in each course. Most of the difference between the two program costs is then attributed to this factor.

Table 23

PROGRAM ANALYSIS: GRADES EIGHT AND NINE,
DIDSBURY HIGH SCHOOL

Course	Credit Equivalent Grade 8	Unit Cost	Credit Equivalent Grade 9	Unit Cost
Mathematics	5	$ 46.07	5	$ 52.83
Physical Education	3	32.14	3	25.53
Language Arts	7	57.41	6	75.65
Social Studies	6	46.41	5	52.83
Science	5	38.40	5	53.13
Health	2	19.02	1	18.90
Home Economics	4	54.77	4	51.12
Industrial Arts	4	30.17[a]	4	24.51
Science Option	2	20.20	2	20.20
Music	2	27.41	2	27.41
Guidance and Study			3	38.75
Totals	40	372.00	40	440.86

a. Science Option and Music were selected from the options taken jointly by the students in grades eight and nine.

The enrollment in a given class varied widely but the total enrollment in grade eight was 76 and in grade nine was 78. The program as defined in the above table did not include other option courses that were available. The grade nine program offered one more course but was lighter in language arts and in health. This, in the overall situation, had the effect of reducing the enrollment in other courses and resulted in a higher program cost. The effect of other variables was deliberately reduced to a minimum by the selection of the program. Thus this program provided evidence that the more course

offered to a given group of students, especially when options were available, the higher the unit cost became.

Summary: Program Analysis.

A large number of programs could have been defined and analysed on the basis of the data presented in Tables 16 and 18 and in Appendices F and G. In each case it would have been necessary to specify the exact courses in the program, the exact pupil groupings to be considered, and the exact portion of the implementary costs applicable to the program.

Analysis of selected programs served several purposes. In general it permitted estimates to be made of the cost per student for any designated program. The use to which such estimates could be put included financial comparisons of grades, schools, counties, and any combination or portion of these. It also facilitated more penetrating analysis of the factors determining unit costs because it served to isolate certain factors.

Analysis of selected programs was illustrative of how such analyses could be done. Since any program was defined by the components of that program (such as a given course or a specific implementary cost) it was possible to obtain financial information about any part of program. This could be done by examining one component or by redefining the program to include only a limited number of components. It was also possible to determine what portion of the total unit cost each component represented, and therefore to determine the effect of reducing or increasing that component.

Chapter 5

SUMMARY AND CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

Recent rising educational costs have resulted in concern as to just how public funds for education are being spent. The suggestion is that unit-cost studies such as this will reveal just how the education dollar has been utilized, will reveal the factors that have determined educational spending, and will reveal sets of unit costs for selected pupil groupings and programs. The major emphasis, as outlined in Chapter 1, has been the examination of unit-cost analyses on the bases of actual analyses as carried out in the County of Lacombe, and in the County of Mountain View. These findings were reported in four parts. The last three parts of the findings correspond to the schedule as laid down by the Department of Education under whose auspices this study was carried out.

The first area of concern was the presentation of a model for unit-cost analysis. This was followed by the presentation of the unit-cost data and the analyses of that data. These revealed that unit costs varied considerably from situation to situation, but in each case the direct instructional costs were the most expensive part of the total operating costs. These accounted for 59.7 percent of the total operational costs in the county of Lacombe and 58.8 percent

in the County of Mountain View. Transportation costs accounted for just over 10 percent of the total cost in each county and school administration accounted for about 5 percent of the total.

The pupil groupings selected for detailed analysis were the individual schools, the divisional groupings, and the subject groupings. In each case the higher unit costs were found in connection with higher grades, particularly in connection with high schools. Transportation costs, however, were a function of where the school was located relative to the county population; not specifically a function of the grade level. The general trend of higher costs for higher grades was found to be more emphatic with respect to expenditures for personal services and less emphatic with respect to expenditures for goods.

Variables that determined the actual unit costs were, for direct instructional costs; the class enrollment, the teacher's salaries, and the length of the course. Of these the first two could well vary from year to year for any given school, resulting in a large degree of change among the unit costs from year to year. Transportation, administration, and plant operation cost differences between school were of a more permanent nature. They were closely allied to the size of the school, the extent of the curricula offered, and the area in which the school was found.

IMPLICATIONS AND RECOMMENDATIONS

1. The methodology of the study seemed adequate for the generation of the desired unit costs but it is felt that a more logical procedure could be devised. Such a procedure could be more congruent to the data to be collected and more economical in time and effort, particularly when larger numbers of schools and pupils are involved.

The present methodology was based on the concept of the inter-relationship between given pupil groupings and the functional character of the expenditures. It would be easier, provided that computers were available, to collect the data on the basis of the actual unit under consideration (each pupil) rather than in terms of aggregations of classes, divisions, schools, and county expenditures. This could be made possible through a series of pupil registrations done at the beginning of the school year and through subsequent registrations whenever the pupil changed or left a stated program.

The implementary expenditures could be classified and analysed in much the same way as done in this study, the chief difference being the economy of effort if each expenditure was classified and prorated as it was made or it was entered in the financial records.

The virtues of such an approach would be the exact costing of each pupils program and the exact costing of any combination of pupils, courses, or programs. The next two recommendations are allied to this implication but would, in any case, facilitate unit-cost analysis.

2. It is recommended that any researcher conducting a similar study would be well advised to collect the data personally, so that

the job of checking and making adjustments would be easier, more efficient, and certainly faster. This task would be still easier if the researcher was personally familar with the system under study. Working from inside any system being analysed would provide greater accuracy through more extensive knowledge of the system, and greater economy of time and effort through familarity with officials, staffs, data files (or the lack of them), and local practices and customs.

3. It is recommended that unit-cost analysis for any large number of pupils (over 1,000) employ computer analysis. Without the use of a computer to store, manipulate and help analyze the data, much of the flexibility and multiplicity of responses available through unit-cost analysis would be lost. With the use of computers a more useful cost analysis is possible by provision of running totals for each unit and combination of units. With computers suitably programmed the cost analysis could be a continuous, on-going picture of the expenditures.

4. The findings of this study, due to the indiosyncratic nature of the data, can only be used with validity for the area and time in which the study was carried out. It is recommended that longitudinal studies of the same type be carried out before more than preliminary comparisons among school jurisdictions are made.

5. Low enrollments are costly, but studies specifically orientated and designed towards researching "efficiency of size" are needed. This study was not so designed, hence its conclusions should be considered tentative.

6. Financial information provides one basic upon which

decisions can be made. However, some of the findings in this study are indications that isolated or incomplete financial evidence is not a sufficient basis for generalizations or for making specific decisions. It is recommended that in the making of any decision in which the financial aspect is important, the whole of the financial picture be examined, not any limited portion of it.

7. It is recognized that unit cost analyses as presented here do not include capital costs and do not include income data. As such the analyses are limited with respect to the total financial situation. It is a recommendation of this study that future analyses incorporate these aspects.

8. The establishment of an accounting system along the lines used in this study does not seem to represent too great a change in added expenditure. Indeed, the County of Mountain View had partially established such a system at the time of this study. If the government is interested in a close examination of the way in which the Foundation Program's funds are being spent, it is recommended that the Department of Education establish a new accounting system for school boards. The present system seems to be efficient enough, but it does not provide any of the added information which this study suggests is needed.

BIBLIOGRAPHY

A. BOOKS

1. Benson, C.S. Perspectives on the Economics of Education. Boston: Houghouton Mifflin Company, 1963.

2. Benson, C.S. The Economics of Public Education. Boston: Houghton Company, 1961.

3. Burke, A.J. Financing Public Schools in the United States. New York: Harper and Brothers, 1957.

4. Burkehead, J. Public School Finance: Economics and Politics. Worcester: Hefferman Press, 1964.

5. Fowlkes, J.G., and A.L. Hansen. "Business Management-Accounting Auditing and Reporting," Problems and Issues in Public School Finance. Edited by R.L. Johns and E.L. Morphet. New York: National Conference of Professors of Educational Administration, 1952.

6. Gauerke, W.E., and T.H. Childress, editors. Theory and Practice of School Finance, Chicago: Rand McNally and Company, 1967.

7. James, H.T., and J.M. Cronin. "New Developments and Trends in School Finance: Projections and Observations." The Theory and Practice of School Finance. Edited by W.E. Gauerke and J.R. Childress. Chicago: Rand McNally and Company, 1967.

8. Johns, R.L. and E.L. Morphet. Financially the Public Schools. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1960.

9. Knezevich, S.J. "Resource Management and Educational Logistics," The Theory and Practice of School Finance. Edited by W.E. Gauerke and J.R. Childress. Chicago: Rand McNally and Company, 1967.

10. Knezevich, S.J. and J.G. Fowlkes. Business Management of Local School Systems. New York: Harper and Brothers, 1960.

11. Linn, H.H. School Business Administration. New York: The Ronald Press Company, 1956.

12. Mort, P.R., W.C. Reusser, and J.W. Polley. Public School Finance: Its Background, Structure and Operation. New York: McGraw-Hill Book Company, Inc., 1960.

B. PERIODICALS

13. Cutler, S.C. "A Board Member Looks at System Analysis," Journal of Secondary Education, 42:6, 1967.

14. McLure, W.P. "Educational Cost Analysis." A report available from the Bureau of Educational Research, College of Education University of Illinois. Urbana, Illinois: University of Illinois, March, 1957.

C. PUBLICATIONS OF THE GOVERNMENT, LEARNED SOCIETIES AND OTHER ORGANIZATIONS

15. Alberta Department of Education. Sixty-third Annual Report of the Department of Education of the Province of Alberta. Edmonton: Queen's Printer, 1969.

16. Atherton, P.J. "Alberta Junior College Cost Studies: Number 1 Mount Royal Junior College," Research Studies in Post-Secondary Education. Edmonton, Alberta: Provincial Board of Post Secondary Education, December, 1968.

17. Hansen, E.J. Financing Education in Canada: Research Monograph Number 14. Edmonton: The Alberta Teacher's Association, March, 1969.

18. McLeod, T.H. "Education Finance: the Federal Responsibility," The Piper and the Tune. The 1967 Conference on Education Finance. Ottawa: the Canadian Teachers Federation, 1967.

19. Reason, P.L. and A.L. White, editors. Financial Accounting for Local and State School Systems: Standard Receipt and Expenditure Accounts. Washington: United States Government, Printing Office, 1966. Also referred to as "State Educational Records and Reports Series: Handbook 1, Bulletin 1957, No. 4."

D. UNPUBLISHED MATERIALS

20. Duke, William Richard. "A Cost Analysis of Selected Schools In An Urban School System," Unpublished Doctoral thesis, The University of Alberta, Edmonton, 1970.

21. Myroon, John Lyon. "Unit Cost Analysis of the Educational Expenditures of the County of Thorhild 1967-1968," Unpublished Master's thesis, The University of Alberta, Edmonton, 1969.

22. Percevault, John Baptiste. "Rural School Administration Costs in Alberta," Unpublished Master's thesis, The University of Alberta, Edmonton, 1964.

APPENDIX A

LETTER FROM THE DEPUTY MINISTER OF EDUCATION

DEPUTY MINISTER
DEPARTMENT OF EDUCATION

Edmonton 6, Alberta.
November 26, 1969.

TO WHOM IT MAY CONCERN:

This letter is directed particularly to Superintendents, Secretary-Treasurers, and Chairmen of those Divisions or Counties in which Dr. Peter Atherton is particularly interested.

Dr. Atherton is undertaking research in the field of program budgeting. He is using certain counties, divisions, and school districts as experimental centres for exploring the many issues of program budgeting. Your jurisdiction is one of these and I would appreciate very much any cooperation that you might be able to give him.

Yours sincerely,

[redacted]

T. C. Byrne,
Deputy Minister.

APPENDIX B

DETAILED EXPENDITURES FOR EDUCATIONAL TELEVISION, COUNTY OF MOUNTAIN VIEW

Table 25

EXPENDITURES FOR EDUCATIONAL TELEVISION

Type of Expenditure	Costs for 1969	Costs for 1967-1968	Total Costs To Date
Operational			
Office Supplies	283.35	584.71	818.06
Printing and Stationery	---	719.02	719.02
Program Materials	83.84	101.45	185.29
Video-Tapes	4,735.00	11,682.91	16,417.91
Graphic Supplies	---	391.79	391.79
Shipping and Mailing	20.20	18.86	39.06
Travel Expense	436.58	1,734.04	2,170.62
Books and Magazines	47.87	27.63	75.50
Resource Material	142.00	---	142.83
Power-Transmission Shed	256.73	118.85	375.58
Maintenance	214.05	---	214 05
Rentals			
Studio	19,320.00		30,545.38
Studio Monitor and others	2,010.00		3,578.66
School Monitors	5,638.00		7,775.68
Distribution Rental	1,200.00		1,500.00
Capital			
Studio Renovation	---	9,205.03	9,205.03
Studio Installation	---	3,000.00	3,000.00
Distribution System	---	1,780.00	1,780.00
Small Tools	---	55.86	55.86
Studio Lighting	---	2,333.56	2.333.56
Support Equipment	---	831.59	831.59

Table 25 (continued)

EXPENDITURES FOR EDUCATIONAL TELEVISION

Type of Expenditure	Costs for 1969	Costs for 1967-1968	Total Costs To Date
Personnel			
Technical Payroll	11,584.24	11,051.76	22,636.00
Educational Payroll	21,960.39	23,123.27	45,083.66
Fees and Teacher Subs.	100.00	325.00	425.00
Part Time Help	1,680.00	909.94	2,589.94
Employee Benefits	986.10	489.63	1,475.73
Administration	2,238.64	3,543.92	5,782.56
Total Expenditures	72,222.06	87,923.00	160,145.06
Revenues Under Cost Sharing	33,099.91	41,640.59	74,740.50
School Foundation Revenue	11,484.50	9,646.50	21,131.00
Net County Costs	27,637.65	36,635.91	64,273.56

APPENDIX C

QUESTIONAIRRES

INSTRUCTION 200 a) DIRECT SALARIES (PRINCIPALS, VICE-PRINCIPALS, DEPARTMENT HEADS AND COUNSELLORS)

NAME ______________ SCHOOL ______________ POSITION ______________.

Courses Taught - Grade or Level (Include Spares but not Admin. Time)	Course Time in Min. Per Week	Course Time as Percentage of Total Time	Enrolment Per Course	Training (for Salary Purposes)	Experience (for Salary Purposes	For Office Use	
Total Time (Min.)							

Administrative Time Per Week __________ Min. % ____
Counselling Time Per Week __________ Min. ____

PRORATION OF ADMINISTRATIVE OR COUNSELLING DUTIES TO DIVISION AND PROGRAM

NOTE - It is recommended that the following percentages be estimated from a one-week period.

My Administrative (Counselling)
Time is Divided Among the
Divisions as Follows:

Div. I ______
Div. II ______
Div. III ______
Div. IV ______
Total - 100%

If In Div. IV
Also Prorate Your Time
By Programs:

Academic __________
General __________
Commercial __________
Vocational __________
Other __________ Specify __________

INSTRUCTION 200 b) INDIRECT SALARIES (FULL-TIME SUPERVISORS, SCHOOL CLERICAL STAFF, INTERNS)

NAME ____________________ POSITION ____________________ SCHOOL ____________________

____

ESTIMATION OF TIME SPENT BY GRADE DIVISIONS AND PROGRAMS

NOTE - It is recommended that the following percentages be estimated from a one-week period.

My Time is Divided
Among the Divisions as
Follows:

Div. I ________
Div. II ________
Div. III ________
Div. IV ________

Total - 100%

If in Div. IV

My Time is Divided
Among the Programs
as Follows:

Academic ____________________
General ____________________
Commercial ____________________
Vocational ____________________
Other ____________ Specify ____________

Total - 100%

APPENDIX D

METHODS OF CALCULATING ADMINISTRATIVE EXPENDITURES

CALCULATION OF ADMINISTRATIVE EXPENDITURES

County of Lacombe.

The methods used to calculate what portions of the administrators' salaries should be allocated to administration and what portion to direct instruction were as follows.

1. If the administrator was a "full-time" administrator, that is he did not do any teaching, then his full salary was allocated to administrative expenditures.

2. If the administrator taught part time then his salary as though he was a full time teacher was calculated. This was subtracted from the total salary and the remainder (commonly called the administrative bonus) was allocated to administrative expenditures. The remaining salary was prorated to direct instruction on the basis of time. Any portion of the administrator's time that was allocated to administration (that is that was not allocated to instruction) was allocated to administrative expenditures.

The effect of this procedure was the same as finding the cost of a teacher to replace the administrator (equal qualifications and experience) and subtracting this from the administrator's salary. The remaining portion of the salary was allocated to administrative expenditure accounts.

The portion allocated to direct instruction (if any) was further prorated to the specific subjects taught. The proportion allocated to administrative expenditures was further prorated to the divisional level of pupil groupings.

APPENDIX E

SCHOOL GENERATED INCOME

SCHOOL GENERATED INCOME

This appendix is a summary of the income at Lacombe Composite High School for the school year 1969-1970. As such it serves as an example of how income was allied with expenditure, particularly in a larger high school. The purpose of this appendix is to show that in some cases expenditure data, alone, is not sufficient to justify certain decisions.

Table 26

INCOME: LACOMBE COMPOSITE HIGH SCHOOL

Source of Income	Amount ($)	Source of Income	Amount ($)
School Supplies	46.70[a]	Gym Clothes	39.80
Automotive Materials	1,352.83	Beauty Culture	3,069.20
Vocational Course Materials	1,046.87	Locker Rentals	477.00
Periodicals	396.00	Plug-in Rentals	105.00
Welding for Elementary School	337.00		

a. Unless other wise stated the income shown here is a result of selling the goods or materials indicated.

The total income enjoyed by just this one school amounted to $6,870.40 or about $12.00 per student. This represented about 25 per-cent of the total cost for supplies for that school.

APPENDIX F

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Table 27

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Lacombe Elementary School					
Opportunity Class	14	510.71	37.5	N/A	510.71
Upper Opportunity Room	14	615.46			615.46
Opening Exercises	66	12.47	1.25	1	14.39
Home Room Period	83	13.90	1.25	1	14.96
Physical Education	192	7.38	.75	1	16.56
Printing	128	17.10	1.5	1	20.00
Reading	168	76.76	11.0	1	94.58
Library	173	9.11	.75	1	10.87
Spelling	87	24.87	4.0	1	26.35
Arithmetic	129	67.66	7.5	1	68.37
Enterprise	128	13.66	1.5	1	25.96
Science	108	12.02	1.25	1	18.48
Health	61	9.78	.75	1	15.30
Art	137	10.55	1.0	1	18.48
Music	128	8.26	1.5	1	16.65
Opening Exercises	47	9.26	1.25	2	14.96
Home Room Period	103	8.86	1.0	2	14.59
Language Arts	104	36.11	4.0	2	34.65
Printing	164	7.19	1.5	2	14.10
Reading	123	76.68	11.0	2	89.13
Library	75	5.07	.75	2	8.12
Spelling	131	21.44	4.0	2	27.44
Arithmetic	123	39.99	5.0	2	55.27
Enterprise	104	19.26	2.5	2	26.75
Science	104	17.11	2.5	2	25.72
Health	84	6.09	.75	2	10.75
Music	226	10.59	1.75	2	14.12
Art	103	14.65	2.0	2	15.06

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Opening Exercises	48	10.09	1.25	3	10.11
Home Room Period	74	13.48	1.5	3	14.24
Physical Education	126	12.05	1.5	3	13.86
Language Arts	126	23.35	3.5	3	25.83
Writing	126	13.97	1.8	3	14.15
Reading	126	59.49	7.8	3	63.12
Library	124	5.62	6.0	3	8.11
Spelling	126	31.33	4.0	3	26.28
Arithmetic	146	39.96	8.0	3	52.55
Enterprise	146	20.35	4.0	3	27.00
Science	146	18.73	3.0	3	21.75
Health	146	12.93	2.0	3	11.71
Music	146	10.77	1.35	3	13.23
Art	124	16.32	2.3	3	14.75
Opening Exercises	81	7.81	1.25	4	7.50
Home Room Period	54	15.00	1.5	4	9.58
Physical Education	108	8.06	1.28	4	14.59
Language Arts	106	23.11	3.7	4	25.60
Writing	106	6.77	1.1	4	9.78
Reading	106	38.33	5.6	4	48.17
Library	106	5.37	.75	4	7.32
Spelling	106	22.01	4.0	4	20.41
Mathematics	106	46.24	6.25	4	47.36
Social Studies	106	29.11	5.0	4	27.42
Science	106	29.42	4.5	4	30.68
Health	106	15.58	1.1	4	13.98
Music	81	13.28	2.0	4	17.88
Art	82	18.19	1.5	4	17.10
Supervised Study	56	9.35	1.0	5	12.16
Physical Education	84	23.76	1.9	5	22.83

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Remedial Reading	25	62.14	5.0	5	62.14
Language Arts	129	36.84	5.0	5	38.22
Writing	83	7.19	8,0	5	11.36
Reading	104	48.02	5.0	5	61.12
Library	129	9.53	.75	5	12.62
Spelling	129	22.07	2.5	5	26.29
Mathematics	83	76.71	7.5	5	63.77
Social Studies	129	34.06	4.5	5	34.59
Science	129	27.51		5	38.06
Health	129	12.71	1.8	5	15.17
Music	55	18.48	1.8	5	19.76
Art	129	14.72	1.7	5	22.35
Supervised Study	48	12.08	1.6	6	12.82
Physical Education	86	20.21	1.8	6	16.98
Remedial Reading	21	70.00	5.0	6	70.00
Language Arts	112	28.45	3.5	6	41.21
Writing	55	7.22	.75	6	7.22
Reading	95	52.01	4.0	6	50.98
Library	112	7.29	.75	6	8.93
Spelling	112	18.90	2.5	6	17.71
Mathematics	112	46.20	6.6	6	56.25
Social Studies	112	40.04	4.0	6	44.82
Science	112	46.08	4.0	6	45.91
Health	111	13.89	1.8	6	12.96
Music		12.61	1.8	6	12.97
Art	112	13.95	1.5	6	16.39
Lacombe Composite High School					
Supervised Study	60	18.04	N/A	10-12	11.65
Pre-Employment	14	956.03			956.03

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
English 10	132	56.13	5	10-12	63.10
English 13	87	54.35	5	10-12	69.43
Literature 11	94	35.37	3	10-12	38.28
Reading 10	100	28.76	3	10-12	28.11
Social Studies 10	199	67.76	5	10-12	61.07
Mathematics 10	151	49.78	5	10-12	55.35
Mathematics 15	41	85.85	5	10-12	72.74
Biology 10	127	32.59	3	10-12	36.04
Chemistry 10	138	27.35	3	10-12	32.55
Physics 10	133	30.20	3	10-12	28.34
Science 11	46	64.97	5	10-12	103.70
French 10	94	72.41	5	10-12	65.77
Arts 10	21	91.62	5		67.77
Dramatics 10	12	133.51	5		51.90
Physical Education 10	437	23.99	2	10	28.89
Bookkeeping 10	58	58.08	5	10-12	54.19
Business Fundamentals 10	36	46.87	2.5	10-12	42.23
Shorthand 10	18	93.40	5	10-12	93.40
Typewriting 10	84	83.83	5	10-12	57.06
Fabrics and Dress 10	16	118.28	5	10-12	118.28
Foods and Nutrition 10	33	115.24	5	10-12	115.24
Industrial Arts					
General 10	80	124.90	5	10-12	124.90
Automotives 12	14	63.39	5	10-12	63.39
Beauty Culture 12	16	47.89	5	10-12	47.89
Building Construction 12	10	84.49	5	10-12	84.49
Drafting 12	14	94.73	5	10-12	94.73
Electricity 12	10	164.08	5	10-12	164.08
Horticulture 12	15	117.86	5	10-12	117.86
Welding 12	68	63.95	5	10-12	63.95
English 20	72	55.83	5	11-12	56.57
English 23	51	71.00	5	11-12	70.04

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Language 22	77	57.22	5	11-12	58.43
Literature 21	16	67.22	5	11-12	72.91
Social Studies 20	26	61.76	5	11-12	62.75
Psychology 20	14	68.29	2.5	11-12	40.41
Sociology 20	22	72.82	5	11-12	58.59
Mathematics 20	98	63.03	5	11-12	64.31
Mathematics 21	16	101.62	5	11-12	117.85
Mathematics 23	33	95.21	5	11-12	95.21
Biology 20	72	31.40	3	11-12	28.52
Chemistry 20	79	27.00	3	11-12	43.79
Physics 20	61	38.07	3	11-12	42.98
Physics 22	32	96.51	3	11-12	96.51
French 20	48	54.08	5	11-12	89.76
Art 21	8	119.50	2.5	11-12	119.50
Dramatics 20	5	190.98	3	11-12	95.61
Law 20	46	36.68	2.5	11-12	57.64
Physical Education 20	48	143.41	5	11-12	115.92
Bookkeeping 20	24	135.97	5	11-12	136.15
Clerical Practice 20	13	125.07	5	11-12	86.09
Merchandising 20	30	112.49	5	11-12	77.45
Shorthand 20	10	168.13	5	11-12	168.13
Typewriting 20	37	88.20	5	11-12	123.54
Fabrics and Dress 20	5	126.17	5	11-12	126.17
Foods and Nutrition 20	6	210.28	5	11-12	210.28
Industrial Arts					
General 20	22	92.30	5	11-12	92.30
Automotives 22	11	243.18	15	11-12	243.18
Beauty Culture 22	12	223.23	5	11-12	223.23
Building Construction 22	5	509.32	2.5	11-12	509.32
Drafting 22	1	3,978.75	15	11-12	3,978.75
Electricity 22	4	1,236.38	15	11-12	1,236.38
Horticulture 22	8	666.07	5	11-12	666.07
Welding 22	13	251.20	5	11-12	251.20

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
English 30	134	64.51	5	12	64.96
English 33	75	72.34	5	12	74.70
Social Studies 30	85	64.16	5	12	78.81
Social Studies 36	108	59.34	5	12	63.15
Economics 30	25	76.96	5	12	70.61
Mathematics 30	90	71.68	5	12	81.60
Mathematics 31	22	76.42	5	12	76.42
Mathematics 32	19	92.20	5	12	116.52
Biology 30	82	64.68	5	12	73.65
Chemistry 30	71	60.22	5	12	60.22
Physics 30	59	78.71	5	12	96.54
Physics 32	12	128.68	5	12	126.68
French 30	44	77.35	5	12	97.76
Physical Education 30	48	71.71	5	12	71.71
Accounting 30	10	162.59	5	12	126.93
Business Machines 30	23	141.88	5	12	141.88
Business Organization and Management	12	140.62	5	12	140.62
Office Practice 30	14	116.14	5	12	116.14
Shorthand 30	9	186.81	5	12	186.81
Typewriting 30	22	148.33	5	12	183.87
Fabrics and Dress 30	5	252.33	5	12	252.33
Automotives 32	10	267.50	15	12	267.50
Beauty Culture 32	10	267.88	15	12	267.88
Building Construction 32	4	636.65	15	12	636.35
Drafting 32	5	795.75	15	12	795.75
Electricity 32	3	1,648.51	15	12	1,648.51
Horticulture 32	5	1,065.72	15	12	1,065.72
Clive School					
Physical Education	25	37.59	3	1	16.56
Printing	25	31.40	2.5	1	20.00

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Reading	25	149.91	12.0	1	94.58
Library	25	12.38	1.0	1	10.87
Arithmetic	25	94.63	7.5	1	68.37
Social Studies	25	39.36	3.125	1	25.96
Science	25	39.36	3.125	1	18.48
Art	25	36.26	3.0	1	16.65
Physical Education	16	20.30	2.0	2	14.59
Language Arts	16	54.14	5.0	2	34.65
Printing	16	24.29	2.25	2	14.10
Reading	16	108.69	10	2	89.13
Spelling	16	50.16	4.375	2	27.44
Arithmetic	16	54.14	5.0	2	55.27
Social Studies	16	27.07	2.5	2	26.75
Science	16	37.82	3.5	2	25.72
Health	16	18.71	1.75	2	10.75
Music	16	29.81	2.25	2	14.12
Physical Education	15	32.75	2.625	3	13.86
Language Arts	16	50.04	3.5	3	25.83
Printing	15	15.69	1.25	3	14.15
Reading	15	97.80	7.75	3	63.12
Spelling	15	31.37	2.5	3	26.28
Arithmetic	15	78.89	6.25	3	52.55
Social Studies	15	54.90	2.25	3	27.00
Science	15	54.90	4.375	3	21.75
Health	16	14.23	1.0	3	11.71
Music	15	37.83	1.0	3	13.23
Art	15	10.61	3.0	3	14.25
Physical Education	28	16.26	2.0	4	14.59
Language Arts	28	28.60	4.75	4	25.60
Writing	28	21.31	2.625	4	9.78

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Reading	28	56.35	7.0	4	48.17
Library	28	7.01	2.0	4	7.32
Spelling	28	25.51	3.0	4	20.41
Arithmetic	28	29.72	5.0	4	47.36
Social Studies	28	28.60	3.5	4	27.42
Science	28	29.90	4.375	4	30.68
Health	28	14.30	1.75	4	13.98
Music	28	17.03	2.2	4	17.88
Art	28	14.30	1.75	4	17.10
Physical Education	22	21.67	2.0	5	22.83
Language Arts	22	48.97	4.5	5	38.22
Writing	22	21.67	2.0	5	11.36
Reading	22	59.00	5.25	5	61.12
Spelling	22	38.13	4.5	5	26.29
Arithmetic	22	47.75	5.0	5	63.77
Social Studies	22	54.59	5.0	5	34.59
Science	22	48.97	4.5	5	38.06
Health	22	21.67	2.0	5	15.17
Music	22	21.67	2.0	5	19.76
Art	22	18.86	1.75	5	22.35
Physical Education	21	17.50	1.75	6	16.98
Language Arts	21	18.99	1.825	6	41.21
Writing	21	12.66	1.25	6	7.22
Reading	21	97.91	9.625	6	50.98
Library	21	8.56	.825	6	8.93
Spelling	21	25.32	2.5	6	17.71
Mathematics	21	50.63	5.0	6	56.25
Social Studies	21	26.43	2.375	6	44.82
Science	21	53.40	4.0	6	45.91
Health	21	18.99	1.825	6	12.96
Music	21	20.10	4.375	6	12.97
Art	21	26.43	2.625	6	16.39

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Physical Education	21	37.81	3.5	7	22.14
Language Arts	21	79.17	5.625	7	71.23
Reading	21	39.96	3.0	7	39.96
Library	21	9.45	.825	7	16.30
Mathematics	21	46.28	3.825	7	37.58
Social Studies	21	54.07	5.0	7	38.62
Science	21	45.83	4.0	7	27.33
Geography 7	21	28.77	3.0	7	28.77
Art	21	46.87	3.5	7	39.62
Dramatics	21	29.87	3.0	7	19.04
French	21	38.69	2.75	7	21.26
Supervised Study	22	9.02	N/A	8	9.18
Physical Education	39	22.80	3.5	8-9	16.36
Language Arts	22	53.69	4.0	8	66.31
Language Options	22	20.57	2.0	8	27.90
Reading Option	18	54.68	3.5	8-9	54.68
Library	22	11.00	.825	8	17.29
Mathematics	22	44.17	3.825	8	44.11
Social Studies	22	51.61	5.0	8	37.65
Science	22	46.21	3.625	8	35.03
Dramatics	22	36.09	3.5	8	41.89
French	22	26.70	2.0	8	22.05
Guidance	19	25.90	1.75	8	16.61
Physical Education	39	22.80	3.5	8	17.44
Language Arts	19	73.68	4.75	8	63.39
Library	19	12.74	.825	8	9.80
Mathematics	19	48.38	3.675	8	43.57
Social Studies	19	58.51	5.0	8	43.66
Science	19	59.02	4.0	8	37.09
Science Option	22	33.43	3.5	8-9	32.99
Dramatics	19	34.27	3.0	8	31.65
French	19	30.92	2.0	8	22.10

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Lacombe Junior High School					
Science Option	12	19.08	3	7-9	28.48
Dramatics	45	24.79	3	7-9	46.34
Home Room Period	47	4.50	1	7	4.50
Physical Education	128	26.55	2	7	22.41
Language Arts	124	89.02	8	7	71.23
Reading Option	24	19.73	3	7	22.63
Language Arts Option	34	53.55	3	7	53.55
Mathematics	127	38.82	5	7	37.58
Social Studies	127	26.02	5	7	38.62
Social Studies Option	24	46.48	3	7	59.57
Science	124	37.99	4	7	27.43
Health	128	8.42	2	7	10.27
Music	45	17.11	3	7	50.42
Level 1 Home Economics	46	28.74	3	7	49.19
Industrial Arts	25	22.81	3	7	22.81
Arts and Crafts	27	21.12	3	7	21.12
French	31	15.39	3	7	27.54
Supervised Study	75	4.37	1	8	9.18
Physical Education	130	25.66	3	8	16.36
Language Arts	124	70.57	8	8	66.31
Reading Option	24	19.73	3	8	18.50
Language Arts Option	21	24.90	3	8	24.90
Mathematics	124	40.59	5	8	44.11
Social Studies	125	25.35	5	8	37.65
Social Studies Option	25	18.94	3	8	18.94
Science	125	37.23	4	8	35.03
Health	128	15.16	2	8	9.25
Science Option	28	32.41	3	8	43.79
Music	25	30.79	3	8	51.59

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Level II Home Economics	25	26.36	3	8	26.36
Arts and Crafts	49	34.40	3	8	34.40
Typing	29	30.21	3	8	30.21
French	25	19.08	3	8	22.05
Home Economics	22	29.96	3	8-9	26.36
Industrial Arts	23	24.80	3	8-9	25.35
Guidance	150	20.16	2	9	16.61
Physical Education	143	18.22	3	9	17.44
Language Arts	148	64.40	7	9	63.39
Literature Option	25	30.79	3	9	29.52
Language Arts Option	40	28.65	3	9	28.65
Mathematics	96	48.90	5	9	43.57
Mathematics Option	18	41.91	3	9	41.91
Social Studies	148	44.57	5	9	43.66
Social Studies Option	18	43.21	3	9	43.21
Science	145	38.92	4	9	37.09
Health	143	16.50	2	9	12.50
Science Option	44	43.73	3	9	47.02
Level III Home Economics	48	27.54	3	9	27.54
Industrial Arts	27	21.12	3	9	21.12
Arts and Crafts	26	21.94	3	9	21.94
Typing	56	31.38	3	9	31.38
French	22	19.20	3	9	25.60
Blackfalds School					
Library	36	11.84	.75	1	11.84
Physical Education	36	47.93	3	1	16.56
Printing	36	19.74	1.95	1	20.00
Reading	36	201.31	11.25	1	94.58
Mathematics	36	120.67	7.5	1	68.37

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Enterprise	36	80.07	5.0	1	25.96
Music	36	40.04	2.5	1	18.48
Art	36	40.04	2.5	1	16.65
Library	31	5.30	.625	2	5.30
Physical Education	31	19.40	1.875	2	14.59
Language Arts	31	28.20	2.5	2	34.65
Printing	31	18.65	1.85	2	14.10
Reading	31	119.96	15.0	2	89.13
Spelling	31	30.75	3.0	2	27.44
Mathematics	31	70.85	7.5	2	55.27
Enterprise	31	28.24	3.0	2	26.75
Science	31	15.58	1.0	2	25.72
Health	31	10.06	.75	2	10.75
Music	31	16.37	1.5	2	14.12
Art	31	12.35	1.25	2	15.06
Library	41	4.65	.75	3	6.49
Physical Education	31	16.00	2.5	3	13.86
Language Arts	41	28.96	4.0	3	25.83
Writing	41	12.51	1.5	3	14.15
Reading	41	59.88	8.4	3	63.12
Spelling	41	30.17	4.5	3	26.28
Mathematics	41	59.72	8.05	3	52.55
Enterprise	41	17.92	2.25	3	27.00
Science	41	21.63	3.0	3	21.75
Health	41	10.01	1.2	3	11.71
Music	41	12.51	1.5	3	13.23
Art	41	12.18	1.45	3	14.75
Library	31	4.68	.625	4	6.42
Physical Education	31	14.26	1.875	4	14.59

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Language Arts	31	52.56	5.0	4	25.60
Writing	22	9.44	1.0	4	
Reading	31	62.98	7.5	4	48.17
Spelling	31	18.82	3.0	4	20.14
Mathematics	31	43.87	5.0	4	47.36
Social Studies	31	41.71	5.0	4	27.42
Science	31	40.79	6.0	4	30.68
Health	31	10.30	1.25	4	13.98
Music	31	10.30	1.25	4	17.88
Art	31	10.30	1.25	4	17.10
Library	32	5.86	.75	5	12.16
Physical Education	32	16.84	2.25	5	22.83
Language Arts	82	41.93	5.625	5	38.22
Writing	21	9.89	1.25	5	11.36
Reading	32	54.52	6.25	5	61.12
Spelling	32	25.63	3.0	5	26.29
Mathematics	32	45.64	6.0	5	63.77
Social Studies	82	43.25	6.25	5	34.59
Science	32	42.23	6.25	5	38.06
Health	32	7.26	.75	5	15.17
Music	32	9.98	1.25	5	19.76
Art	32	9.98	1.25	5	22.35
Library	29	3.00	.625	6	12.82
Physical Education	29	9.20	1.9	6	16.98
Language Arts	29	40.28	6.25	6	41.21
Writing	29	6.20	1.25	6	7.22
Reading	30	36.15	7.5	6	50.98
Spelling	29	9.20	1.9	6	17.71
Mathematics	29	36.04	6.25	6	56.25
Social Studies	29	36.04	6.25	6	44.82
Science	29	25.00	6.25	6	45.91
Health	29	6.20	1.25	6	12.96

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Music	29	6.20	1.25	6	12.97
Art	29	6.20	1.25	6	16.39
			N/A	7-9	7.49
Physical Education	15	33.67	2	7-9	33.67
Art	13	58.27	3	7-9	38.92
Physical Education	18	34.99	2	7	22.14
Language Arts	24	26.30	5	7	71.23
Literature	29	17.41	4	7	20.89
Reading Option	29	8.71	2	7	22.63
Mathematics	29	39.09	4	7	37.58
Social Studies	29	42.92	5	7	38.62
Community Economics	29	8.71	2	7	8.71
Science	29	39.09	4	7	27.33
Health	29	9.48	1	7	10.27
Dramatics	29	8.71	2	7	19.04
French	24	43.06	2	7	27.54
Supervised Study	19	26.15	2	8	9.18
Physical Education	68	15.59	3	8	16.36
Language Arts	19	33.22	5	8	66.31
Literature	19	108.77	4	8	36.44
Reading Option	19	13.29	2	8	18.50
Mathematics	19	59.66	4	8	44.11
Social Studies	19	65.51	4	8	37.65
Science	19	59.66	4	8	35.03
Health	50	8.02	1	8	9.25
French	16	64.58	2	8	22.05
Guidance	31	7.93	2	9	16.61
Physical Education	67	15.82	3	9	17.44
Language Arts	31	100.40	6	9	63.39
Literature	31	66.67	4	9	29.52
Reading Option	62	12.20	1	9	8.90
Mathematics	31	36.57	4	9	43.57

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Social Studies	31	40.15	5	9	43.66
Science	31	36.57	4	9	37.09
Geography	31	16.03	2	9	16.03
French	34	45.77	3	9	25.60
Satinwood School					
Physical Education	17	21.26	2	1-2	16.56
Language Arts	11	32.86	4	1	20.37
Printing	11	24.80	3	1	20.00
Reading	11	82.46	10	1	94.58
Spelling	11	40.92	5	1	26.35
Arithmetic	11	40.92	5	1	68.37
Enterprise	11	16.12	2	1	25.96
Science	11	32.86	3	1	18.48
Music	11	38.51	3	1	18.48
Art	11	16.12	2	1	16.65
Physical Education	9	38.52	3	2	14.59
Language Arts	15	52.83	3.25	2	34.65
Printing	15	27.56	2.75	2	14.10
Reading	15	88.10	2.75	2	89.13
Spelling	20	37.03	3	2	27.44
Mathematics	15	88.10	6.75	2	55.27
Social Studies	15	50.55	5	2	26.75
Science	15	62.83	4	2	25.72
Music	9	32.27	2.5	2	14.12
Art	15	27.44	2	2	15.06
Physical Education	21	30.14	2	3	13.86
Language Arts	21	40.70	3	3	25.83
Writing	21	20.32	2	3	14.15
Reading	21	96.02	8	3	63.12
Spelling	21	41.09	4	3	26.28

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Mathematics	21	102.56	9	3	52.55
Social Studies	21	47.84	4	3	27.00
Science	21	35.57	4	3	21.75
Health	9	15.27	1	3	11.71
Music	21	27.46	2	3	13.23
Art	21	24.79	2	3	14.75
Physical Education	13	22.02	2	4	14.59
Language Arts	13	32.59	3	4	25.60
Writing	13	22.02	2	4	9.78
Reading	13	88.08	8	4	48.17
Library	13	10.57	1	4	7.32
Spelling	13	44.04	4	4	20.41
Mathematics	13	99.09	9	4	47.36
Social Studies	13	32.59	3	4	27.42
Science	6	45.47	3	4	30.68
Health	13	10.57	1	4	13.98
Music	13	22.02	2	4	17.88
Art	13	22.02	2	4	17.10
Physical Education	6	15.00	9	5	22.83
Language Arts	6	83.15	5	5	38.22
Writing	6	16.63	1	5	11.36
Reading	6	75.00	4.5	5	61.12
Library	6	16.63	1	5	12.62
Spelling	6	41.90	2.5	5	26.29
Mathematics	6	83.75	5	5	63.77
Social Studies	6	83.75	5	5	34.59
Science	6	45.08	3	5	38.06
Health	6	49.90	3	5	15.17
Music	6	49.90	3	5	19.76
Art	6	33.26	2	5	22.35
Physical Education	14	7.15	1	6	16.98

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Language Arts	14	35.75	5	6	33.91
Writing	14	7.15	1	6	7.22
Reading	28	32.20	4.5	6	50.98
Library	14	7.15	1	6	
Spelling	14	18.45	2.6	6	17.71
Mathematics	14	35.75	5	6	56.25
Social Studies	14	35.75	5	6	44.82
Science	14	11.08	3	6	45.91
Health	14	21.45	3	6	12.96
Music	14	21.45	3	6	12.97
Art	14	14.30	2	6	16.39
Science Option	25	21.66	3	7-8	28.48
Physical Education	12	29.86	4	7	22.14
Language Arts	13	20.70	4	7	71.23
Literature	13	15.79	3	7	20.89
Mathematics	13	55.44	4	7	37.58
Social Studies	26	36.49	7	7	38.62
Science	13	28.83	4	7	27.33
Music	9	33.33	3	7	50.42
Art	13	15.79	3	7	39.62
Dramatics	7	29.33	3	7	19.04
Physical Education	13	27.57	4	8	16.36
Language Arts	12	22.42	4	8	66.31
Literature	12	17.11	3	8	36.44
Mathematics	12	60.06	4	8	44.11
Social Studies	12	39.53	7	8	37.65
Science	12	28.33	4	8	35.03
Music	9	33.33	3	8	51.59
Art	12	17.11	3	8	17.11
Dramatics	7	29.33	3	8	41.89

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Eckville School					
Opening Exercises	47	18.10	2.0	1	14.39
Physical Education	47	19.30	2.5	1	16.56
Language Arts	47	24.11	3.0	1	20.37
Printing	47	15.17	1.8	1	20.00
Reading	47	103.04	13.0	1	94.58
Spelling	23	37.43	3.75	1	26.35
Mathematics	47	60.72	7.0	1	68.37
Enterprise	47	19.90	3.0	1	25.96
Science	23	14.97	2.0	1	18.48
Music	47	9.75	1.25	1	18.48
Art	24	21.19	3.4	1	16.65
Opening Exercises	40	15.78	1.25	2	14.96
Physical Education	40	21.99	1.5	2	14.59
Language Arts	40	37.17	3.75	2	34.65
Printing	40	20.00	3.75	2	14.10
Reading	40	95.34	7.5	2	89.13
Library	40	4.66	4.0	2	8.12
Spelling	40	29.56	3.5	2	27.44
Mathematics	40	79.33	5.6	2	55.27
Social Studies	40	40.00	3.8	2	26.75
Science	40	55.34	3.8	2	25.72
Music	20	32.00	3.0	2	14.12
Art	40	13.18	.75	2	15.06
Opening Exercises	49	9.13	1.25	3	10.11
Physical Education	49	10.04	1.0	3	13.86
Language Arts	49	20.54	2.1	3	25.83
Writing	49	10.10	1.5	3	14.15
Reading	49	61.74	10.0	3	63.12
Library	48	6.56	4.0	3	8.11
Spelling	49	15.81	2.5	3	26.28
Mathematics	49	52.89	7.0	3	52.55

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Social Studies	24	60.79	4.0	3	27.00
Science	49	29.12	4.0	3	21.75
Health	24	5.71	.75	3	11.71
Music	49	10.94	1.5	3	13.23
Art	24	9.42	1.0	3	14.75
Physical Education	42	12.87	1.4	4	14.59
Language Arts	63	13.28	2.25	4	25.60
Writing	42	5.63	.75	4	9.78
Reading	42	57.15	7.5	4	48.17
Library	42	9.30	.75	4	7.32
Spelling	42	13.33	1.75	4	20.41
Mathematics	42	77.20	8.0	4	47.36
Social Studies	42	45.74	5.0	4	27.42
Science	42	23.90	2.5	4	30.68
Health	42	13.33	1.75	4	13.98
Music	42	14.70	1.5	4	17.88
Art	42	18.38	1.9	4	17.10
Opening Exercises	28	7.44	1.25	5	24.65
Physical Education	41	15.11	2.0	5	22.83
Remedial Language	8	233.99	7.5	5	233.99
Language Arts	41	34.80	7.0	5	38.22
Reading	41	68.92	7.5	5	61.12
Mathematics	41	63.20	8.5	5	63.77
Social Studies	30	16.66	3.0	5	34.59
Science	41	27.78	2.6	5	38.06
Health	30	11.11	2.0	5	15.17
Music	41	10.10	1.0	5	19.76
Art	30	11.11	2.0	5	22.35
Physical Education	39	14.30	1.75	6	16.98
Language Arts	39	64.53	8.0	6	41.21
Writing	26	6.03	1.0	6	7.22

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Reading	39	67.47	7.5	6	50.98
Spelling	26	9.97	1	6	17.71
Mathematics	39	52.24	7.5	6	56.25
Social Studies	39	27.56	5	6	44.82
Science	39	26.72	2.6	6	45.91
Health	39	13.38	1	6	12.96
Music	40	10.73	2	6	12.97
Art	30	11.11	1	6	16.39
Remedial Reading	5	86.94	2	7-9	86.94
Mathematics Option	25	29.12	3	7-9	28.11
Social Studies Option	38	45.49	3	7-9	33.89
Science Option	28	32.67	3	7-9	28.48
Dramatics	52	56.13	3	7-9	46.34
Arts and Crafts	30	15.16	3	7-9	15.16
Ukranian	15	72.18	3	7-9	134.35
Physical Education	41	26.89	3	7	22.14
Language Arts	41	85.92	8	7	71.23
Mathematics	41	29.75	4	7	37.58
Social Studies	41	57.70	5	7	38.62
Science	41	29.75	4	7	27.33
Health	41	12.87	1	7	10.27
Home Economics	8	126.75	4	7	49.19
Industrial Arts	10	106.48	4	7	42.25
French	29	25.44	3	7	27.54
Physical Education	74	13.89	2	8	16.36
Language Arts	50	107.63	8	8	66.31
Mathematics	50	38.78	4	8	44.11
Social Studies	50	48.47	5	8	37.65
Science	50	24.40	4	8	35.03

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Health	74	10.61	2	8	9.25
Home Economics &	14	54.32	3	8	35.18
Industrial Arts	11	42.78	4	8	34.40
French	28	26.35	3	8	22.05
Guidance	40	22.94	2	9	16.61
Physical Education	37	27.78	2	9	17.44
Language Arts	39	78.99	7	9	63.39
Mathematics	39	31.28	4	9	43.57
Social Studies	39	68.99	4	9	37.09
Science	39	78.97	5	9	43.66
Health	37	21.21	2	9	12.50
Industrial Arts	20	35.38	3	9	48.95
Home Economics	16	47.53	3	9	43.88
Typing	39	48.74	3	9	42.95
French	30	24.60	3	9	25.60
English 13	20	162.51	5	10-12	69.43
Social Studies 10	36	93.51	5	10-12	61.07
Mathematics 10	25	48.44	5	10-12	55.35
Mathematics 12	29	52.93	5	10-12	72.74
Biology 10	33	37.35	3	10-12	36.04
Chemistry 10	26	64.74	3	10-12	32.55
Physical Education 10	32	42.97	3	10-12	28.89
Bookkeeping 10	18	176.20	5	10-12	54.19
English 20	31	52.42	5	11-12	56.57
Literature 21	36	90.28	5	11-12	72.91
Social Studies 20	22	69.77	5	11-12	62.75
Geography 20	5	336.63	3	11-12	87.58
Mathematics 20	11	110.10	5	11-12	64.31
Mathematics 21	12	280.52	5	11-12	240.13
Chemistry 20	12	140.26	5	11-12	23.79

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
French 20	16	154.07	5.0	11-12	89.76
Physical Education 20	14	58.93	3.0	11-12	115.92
Clerical Practice 20	6	528.61	5.0	11-12	123.54
English 30	13	90.90	5.0	12	64.96
Social Studies 30	13	118.07	5.0	12	78.81
Mathematics 30	11	110.10	5.0	12	81.60
Biology 30	24	102.72	5.0	12	73.65
Physics 30	7	219.27	5.0	12	96.54
Office Practice 30	6	528.61	5.0	12	183.87
Mirror School					
Opening Exercises	21	10.21	1.25	1	14.39
Physical Education	21	10.21	1.25	1	16.56
Language Arts	21	29.99	3.6	1	20.37
Printing	21	26.16			20.00
Reading	21	78.17	9.4	1	94.58
Spelling	21	15.63	1.9	1	26.35
Arithmetic	21	47.22	5.6	1	68.37
Enterprise	21	20.74	2.5	1	25.96
Science	21	18.82	2.25	1	18.48
Health	21	12.44	1.5	1	15.30
Music	21	18.82	2.25	1	18.48
Art	21	28.08	3.4	1	16.65
Opening Exercises	26	24.00	2.5	2	14.96
Language Arts	26	36.18	3.75	2	34.65
Printing	26	11.82	1.25	2	14.10
Reading	26	117.78	12.0	2	89.13
Spelling	26	36.18	3.75	2	27.44
Arithmetic	26	72.74	7.5	2	55.27
Social Studies	26	21.78	2.25	2	21.75
Science	26	21.78	2.25	2	25.72

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Health	26	14.40	1.25	2	10.75
Music	26	10.71	1.12	2	14.12
Opening Exercises	26	12.11	1.8	3	10.11
Physical Education	26	15.20	2.25	3	13.86
Language Arts	26	25.25	3.75	3	25.83
Writing	26	15.20	2.25	3	14.15
Reading	26	49.99	7.4	3	63.12
Library	26	13.40	2.0	3	8.11
Spelling	26	16.75	2.5	3	26.28
Arithmetic	26	36.33	5.0	3	52.55
Social Studies	26	15.20	2.25	3	27.00
Science	26	15.20	2.25	3	21.75
Health	26	11.34	1.7	3	11.71
Music	26	15.20	2.25	3	13.23
Art	26	15.20	2.25	3	14.75
Opening Exercises	29	7.23	1.25	4	7.50
Home Room Period	29	7.23	1.25	4	9.58
Physical Education	29	11.66	2.0	4	14.59
Language Arts	29	25.41	4.4	4	25.60
Writing	29	14.45	2.5	4	9.78
Reading	29	43.59	7.5	4	48.17
Library	29	10.02	1.75	4	7.32
Spelling	29	10.72	1.9	4	20.41
Mathematics	29	32.63	5.6	4	47.36
Social Studies	29	17.48	3.0	4	27.42
Science	29	19.58	3.4	4	30.68
Health	29	11.66	2.0	4	13.98
Music	29	10.02	1.75	4	17.88
Art	29	10.02	1.75	4	17.10
Physical Education	20	25.41	1.9	5	22.83
Language Arts	20	63.53	4.75	5	38.22

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Writing	20	12.71	1.0	5	11.36
Reading	20	101.65	7.5	5	61.12
Library	20	25.41	1.9	5	12.62
Spelling	20	50.82	3.8	5	26.29
Mathematics	20	76.24	5.7	5	63.77
Social Studies	20	50.82	3.8	5	34.59
Science	20	50.82	3.8	5	38.06
Health	20	25.41	1.9	5	15.17
Music	20	12.71	1.0	5	19.76
Art	20	12.71	1.0	5	22.35
Physical Education	28	22.17	2.85	6	16.98
Language Arts	28	43.84	4.75	6	41.21
Writing	28	8.70	1.0	6	7.22
Reading	28	45.09	4.75	6	50.98
Library	28	14.69	1.9	6	8.93
Spelling	28	14.69	1.9	6	17.71
Mathematics	28	51.55	6.65	6	56.25
Social Studies	28	36.86	4.75	6	44.82
Science	28	22.17	2.85	6	45.91
Health	28	7.21	1.0	6	12.96
Music	28	27.05	2.85	6	12.97
Art	28	18.04	1.9	6	16.39
Supervised Study	58	11.89	N/A	7-9	7.49
Physical Education	27	35.82	1.85	7	22.14
Language Arts	27	52.95	4.75	7	71.23
Library	39	19.99	1.0	7	16.30
Literature	27	27.07	2.85	7	20.89
Reading Option	28	27.05	2.85	7	27.05
Mathematics	24	34.27	4.3	7	37.58
Social Studies	27	45.46	4.75	7	38.62
Social Studies Option	27	29.88	2.5	7	59.57

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Science	27	36.44	4.3	7	27.33
Health	28	7.21	1.0	7	10.27
Science Option	27	29.88	2.5	7	29.88
Art Option	27	45.46	4.75	7	39.62
Supervised Study	22	11.07	1.0	8	9.18
Physical Education	22	32.18	2.85	8	16.36
Language Arts	22	64.98	4.75	8	66.31
Library	22	23.30	1.9	8	17.29
Literature	22	46.56	2.85	8	36.44
Mathematics	22	73.34	4.3	8	44.11
Social Studies	22	55.79	4.75	8	37.65
Science	22	58.51	4.3	8	35.03
Health	22	14.90	1.0	8	9.25
Science Option	22	28.89	2.5	8	43.79
Dramatics	22	25.25	2.5	8	41.89
Guidance	31	24.03	1.9	9	16.61
Physical Education	31	29.89	2.85	9	17.44
Language Arts	31	46.12	4.75	9	63.39
Library	16	6.30	1.0	9	9.80
Literature	31	36.05	2.85	9	29.52
Mathematics	31	41.52	4.2	9	43.57
Mathematics Option	31	25.03	2.5	9	43.02
Social Studies	31	46.12	4.75	9	43.66
Science	31	41.52	4.3	9	37.09
Science Option	31	26.03	2.5	9	47.02
Dramatics	31	30.04	2.5	9	31.65
Typing	31	30.04	2.5	9	42.95
MAC School					
Physical Education	31	14.40	1.5	1	16.56
Language Arts	31	24.38	2.5	1	20.37

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Printing	31	24.38	2.5	1	20.00
Reading	31	110.44	11.1	1	94.58
Library	31	18.10	1.9	1	10.87
Spelling	31	24.38	2.5	1	26.35
Mathematics	31	48.75	5.0	1	68.37
Social Studies	31	24.38	2.5	1	25.96
Science	31	24.38	2.5	1	18.48
Health	31	24.38	2.5	1	15.30
Music	31	14.40	1.5	1	18.48
Art	31	14.40	1.5	1	16.65
Physical Education	27	7.56	1.0	2	14.59
Language Arts	27	28.49	3.75	2	34.65
Printing	27	14.25	1.9	2	14.10
Reading	27	71.52	9.4	2	89.13
Library	27	14.25	1.9	2	8.12
Spelling	27	27.62	3.6	2	27.44
Mathematics	27	57.28	7.5	2	55.27
Social Studies	27	15.12	2.0	2	26.75
Science	27	15.12	2.0	2	25.72
Health	27	7.56	1.0	2	10.75
Art	27	15.12	2.0	2	15.06
Opening Exercises	27	7.11	1.25	3	10.11
Physical Education	27	16.44	3.0	3	13.86
Language Arts	27	18.00	3.1	3	25.83
Writing	27	10.67	1.9	3	14.15
Reading	27	50.64	8.75	3	63.12
Library	27	4.19	.75	3	8.11
Spelling	27	14.44	2.5	3	26.28
Mathematics	27	28.88	5.0	3	52.55
Social Studies	27	28.88	5.0	3	27.00
Science	27	25.79	3.9	3	21.75

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Health	27	16.74	2.5	3	11.71
Music	27	8.58	1.5	3	13.23
Art	27	8.58	1.5	3	14.75
Physical Education	28	13.64	2.0	4	14.59
Language	28	19.28	3.75	4	25.60
Writing	28	5.15	1.0	4	9.78
Reading	28	45.47	5.0	4	48.17
Spelling	28	12.85	2.0	4	20.41
Mathematics	28	47.71	7.0	4	47.36
Social Studies	28	71.20	12.0	4	27.42
Science	28	38.80	6.0	4	30.68
Health	28	10.31	1.75	4	13.98
Music	28	13.48	2.0	4	17.88
Art	12	30.38	2.0	4	17.10
Physical Education	19	7.59	1.0	5	22.83
Language	20	26.99	3.0	5	38.22
Writing	19	7.59	1.0	5	11.36
Reading	19	53.75	8.0	5	61.12
Spelling	20	17.99	2.0	5	26.29
Mathematics	19	53.75	4.9	5	63.77
Social Studies	19	53.75	4.9	5	34.59
Science	20	45.33	5.0	5	38.06
Health	19	15.19	1.89	5	15.17
Music	19	19.87	2.0	5	19.76
Art	12	30.38	2.0	5	22.35
Physical Education	25	22.75	3.0	6	16.98
Language Arts	25	14.39	2.0	6	41.21
Reading	25	40.85	8.0	6	50.98
Spelling	25	14.39	2.0	6	17.71
Mathematics	25	53.43	7.0	6	56.25
Social Studies	25	38.04	5.0	6	44.82

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Science	25	43.46	6.0	6	45.91
Health	25	20.03	2.0	6	12.96
Music	25	15.10	2.0	6	12.97
Art	12	30.38	2.0	6	16.39
French	25	48.14	2.25	6	24.57
Supervised Study	30	41.65	N/A	7-12	41.65
Reading Option	21	71.77	5.0	7-9	71.77
Mathematics Option	17	37.78	2.5	7-9	28.11
Community Economics	24	32.41	2.5	7-9	32.41
Health	23	26.05	2.5	7-9	26.05
Geography Option	25	18.33	2.5	7-9	18.33
Music Option	34	27.97	2.5	7-9	23.89
Art	19	48.60	2.5	7-9	38.92
Dramatics	47	45.18	3.0	7-9	46.39
Typing	10	92.34	2.5	7-9	92.34
Physical Education	35	22.06	3.0	7	22.14
Language Arts	36	66.94	8.0	7	71.23
Mathematics	35	35.22	4.75	7	37.58
Social Studies	35	35.22	4.75	7	38.62
Science	35	35.22	4.75	7	27.33
Health	35	7.41	1.4	7	10.27
Physical Education	29	26.62	3.0	8	16.36
Language Arts	29	75.34	8.0	8	66.31
Mathematics	29	45.65	4.75	8	44.11
Social Studies	29	44.02	4.75	8	37.65
Science	29	50.08	5.0	8	35.03
Health	15	20.46	1.0	8	9.25
Guidance	27	8.21	1.0	9	16.61
Physical Education	27	29.69	3.0	9	17.44
Language Arts	27	65.67	7.6	9	63.39

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Mathematics	27	45.65	4.75	9	43.57
Social Studies	27	36.01	5.5	9	43.66
Science	54	42.82	3.8	9	37.09
Health	28	29.72	2	9	12.50
Supervised Study	120	8.74	N/A	10-12	11.65
English 10	33	102.01	5	10-12	63.10
English 13	41	64.13	5	10-12	69.43
Literature 11	15	56.49	3	10-12	38.28
Reading 10	16	43.76	3	10-12	28.11
Social Studies 10	66	27.99	5	10-12	61.07
Mathematics 10	67	66.43	5	10-12	55.35
Mathematics 12	9	133.16	5	10-12	72.74
Mathematics 15	31	34.99	5	10-12	59.19
Biology 10	39	46.10	3	10-12	36.04
Chemistry 10	31	14.78	3	10-12	32.55
Physics 10	19	24.12	3	10-12	28.34
Science 11	35	21.75	5	10-12	51.60
French 10	37	183.20	5	10-12	103.70
Arts 10	25	44.06	6	10-12	65.77
Dramatics 10	41	39.27	3	10-12	51.90
Occupations 10	40	33.49	2	10-12	33.49
Physical Education 10	77	33.48	3	10-12	28.89
Bookkeeping 10	55	37.81	5	10-12	54.19
Business Fundamentals 10	17	32.40	3	10-12	42.23
Typewriting 10	49	22.48	3	10-12	57.06
English 23	23	67.63	5	11-12	70.04
Literature 21	18	43.21	3	11-12	72.91
Social Studies 20	35	59.78	5	11-12	62.75
Geography 20	21	43.98	5	11-12	87.58
Psychology 20	21	21.82	3	11-12	40.41
Mathematics 20	25	43.39	5	11-12	64.31

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Mathematics 21	7	154.95	5	11-12	117.85
Mathematics 22	9	133.16	5	11-12	240.13
Biology 20	32	18.73	3	11-12	28.52
Chemistry 20	16	32.49	3	11-12	43.79
Physics 20	12	38.19	3	11-12	42.98
French 20	14	121.86	5	11-12	89.76
Art 20	12	76.95	5	11-12	76.95
Dramatics 20	19	70.51	5	11-12	95.61
Law 20	11	77.03	3	11-12	57.64
Physical Education 20	28	92.08	5	11-12	115.92
Bookkeeping 20	13	79.98	5	11-12	136.15
Shorthand 21	27	38.51	5	11-12	77.45
Typewriting 20	16	64.98	5	11-12	123.54
English 33	24	64.81	5	12	74.70
Social Studies 30	11	106.23	5	12	78.81
Economics 30	27	40.17		12	70.61
Mathematics 30	14	77.48	5	12	81.60
Mathematics 31	5	152.28	5	12	152.28
Biology 30	21	57.07	5	12	73.65
Chemistry 30	9	133.16	5	12	93.66
Physics 30	8	95.17	5	12	96.54
Physics 36	10	76.14	5	12	76.14
French 30	13	131.23	5	12	97.76
Dramatics 30	8	167.47	5	12	167.47
Accounting 30	11	94.52	5	12	126.93
Typewriting 30	5	207.94	5	12	183.87
Bentley Elementary School					
Opening Exercises	20	16.41	1.5	1	14.39
Home Room Period	38	17.28	1.5	1	14.96
Physical Education	18	21.96	2	1	16.56
Language Arts	38	14.81	1.7	1	20.37

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Printing	38	20.10	2.0	1	20.00
Reading	38	129.59	15.0	1	94.58
Library	38	11.99	1.5	1	10.87
Mathematics	38	49.02	5.3	1	68.37
Social Studies	38	21.86	2.25	1	25.96
Science	38	16.04	1.75	1	18.48
Health	38	18.34	2.0	1	15.30
Music	38	17.28	1.9	1	18.48
Art	38	15.52	1.8	1	16.65
Home Room Period	33	9.36	1.25	2	12.28
Physical Education	23	15.47	2.0	2	14.59
Language Arts	33	19.13	2.5	2	34.65
Printing	33	19.13	2.5	2	14.10
Reading	33	81.82	10.5	2	89.13
Library	33	14.25	1.9	2	8.12
Spelling	33	19.13	2.5	2	27.44
Mathematics	33	38.67	5.0	2	55.27
Social Studies	33	19.13	2.5	2	26.75
Science	33	15.47	2.0	2	25.72
Health	33	19.13	2.5	2	10.75
Music	33	15.47	2.0	2	14.12
Art	33	15.47	2.0	2	15.06
Opening Exercises	24	13.35	1.25	3	10.11
Home Room Period	10	10.13	1.0	3	14.24
Physical Education	34	15.24	1.4	3	13.86
Language Arts	34	25.00	2.5	3	25.83
Writing	34	20.14	1.9	3	14.15
Reading	34	65.97	7.5	3	63.12
Library	58	23.17	3.0	3	8.11
Spelling	34	25.00	2.5	3	26.28
Remedial Reading	24	58.10	5.0	3	58.10

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Mathematics	34	78.74	7.0	3	52.55
Social Studies	34	25.00	2.5	3	27.00
Science	34	18.95	1.9	3	21.75
Health	34	16.43	1.6	3	11.71
Music	34	16.10	1.6	3	13.23
Art	34	16.10	1.6	3	14.75
Opening Exercises	20	6.64	.6	4	7.50
Physical Education	43	14.18	1.4	4	14.59
Language Arts	43	32.16	3.5	4	25.60
Writing	43	10.26	1.1	4	9.78
Remedial Reading	9	69.55	4.4	4	69.55
Reading	43	69.38	7.5	4	48.17
Library	20	6.64	.6	4	7.32
Spelling	43	23.51	2.4	4	20.41
Mathematics	43	60.95	6.2	4	47.36
Social Studies	63	24.52	2.5	4	27.42
Science	43	35.73	3.6	4	30.68
Health	43	17.05	1.8	4	13.98
Music	43	18.17	1.9	4	17.88
Art	43	20.10	2.5	4	17.10
French	23	14.73	1.9	4	14.73
Opening Exercises	19	50.02	3.1	5	24.65
Physical Education	40	24.84	2.0	5	22.83
Language Arts	40	41.96	4.4	5	38.22
Writing	19	15.67	1.0	5	11.36
Reading	40	93.79	6.5	5	61.12
Spelling	40	20.64	1.75	5	12.62
Mathematics	21	42.99	6.5	5	63.77
Social Studies	40	51.26	5.0	5	34.59
Science	40	39.37	3.5	5	38.06
Health	40	18.16	1.6	5	15.17

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Music	40	27.72	2.5	5	19.76
Art	40	17.04	1.1	5	22.35
Supervised Study	21	16.08	1.0	6	12.82
Physical Education	42	19.15	1.6	6	16.98
Language Arts	42	81.51	5.3	6	41.21
Writing	42	5.85	8	6	7.22
Reading	42	39.23	5.75	6	50.98
Library	42	9.63	8	6	8.93
Spelling	42	26.95	2.5	6	17.71
Mathematics	21	92.50	6.0	6	56.25
Social Studies	21	89.60	6.0	6	44.82
Science	21	72.81	4.75	6	45.91
Health	40	19.15	1.6	6	12.96
Music	42	9.94	1.5	6	12.97
Art	42	8.53	1.25	6	16.39
Bentley Juinor & Senior High Schools					
Language Arts Option	46	44.23	2.5	7-9	44.23
Mathematics Option	24	20.20	2.5	7-9	28.11
Social Studies Option	29	18.68	2.5	7-9	33.89
Psychology	23	20.54	2.5	7-9	20.54
Science Option	101	31.79	2.5	7-9	28.48
Music Option	25	18.34	2.5	7-9	23.89
Art Option	62	31.90	2.5	7-9	38.92
Dramatics Option	56	35.63	2.25	7-9	46.36
Supervised Study	40	6.41	3.0	7-9	7.41
	45	21.61	2.0	7-9	22.14
Language Arts	45	58.09	6.0	7-9	71.23
Mathematics	45	34.64	4.0	7-9	37.58
Social Studies	45	56.29	4.0	7-9	38.62
Science	45	27.68	4.0	7-9	27.33

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Health	45	32.11	3	7-9	10.27
Home Economics	45	29.94	4	7-9	49.19
French	25	18.89	2.5	7-9	27.54
Physical Education	23	13.11	2	7-9	16.36
Language Arts	46	57.27	6	7-9	66.31
Mathematics	46	33.89	4	7-9	44.11
Social Studies	46	37.88	4	7-9	37.65
Science	46	26.48	4	7-9	35.03
Health	23	6.56	1	7-9	9.25
Home Economics	26	39.98	6	7-9	35.18
Guidance	47	9.72	1	7-9	16.61
Physical Education	21	14.36	2	7-9	17.44
Language Arts	47	55.48	6	7-9	63.29
Mathematics	47	35.08	4	7-9	43.57
Social Studies	47	37.05	4	7-9	43.66
Science	47	32.69	4	7-9	37.09
Health	21	7.18	1	7-9	12.50
Typing	47	23.05	2.5	7-9	42.95
French	12	39.36	2.5	7-9	25.60
Supervised Study	320	11.55	N/A	10-12	11.65
English 10	23	47.25	5	10-12	46.92
English 13	18	50.94	5	10-12	69.43
Reading 10	28	16.87	3	10-12	28.11
Social Studies 10	38	52.73	5	10-12	61.07
Mathematics 10	14	74.62	5	10-12	55.35
Mathematics 12	14	74.95	5	10-12	72.74
Mathematics 15	22	43.61	5	10-12	59.19
Biology 10	29	36.18	3	10-12	36.04
Chemistry 10	19	55.23	3	10-12	32.55
Physics 10	26	21.91	3	10-12	28.34

Table 27 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF LACOMBE 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Science 11	12	87.44	4	10-12	51.60
Dramatics 10	18	26.24	3	10-12	51.90
Music 10	15	30.57	3	10-12	30.57
Physical Education 10	36	66.07	5	10-12	28.89
Bookkeeping 10	22	39.28	5	10-12	54.19
Typewriting 10	31	39.19	3	10-12	57.06
English 20	16	67.92	5	11-12	56.57
English 23	13	70.54	5	11-12	70.04
Language 22	17	63.93	5	11-12	58.43
Social Studies 20	15	61.13	5	11-12	62.75
Geography 20	9	50.94	3	11-12	87.58
Sociology 20	22	44.36	5	11-12	58.59
Mathematics 20	14	74.62	5	11-12	64.31
Mathematics 22	6	319.79	5	11-12	240.13
Biology 20	11	38.16	3	11-12	28.52
Chemistry 20	4	131.16	3	11-12	43.79
Physics 20	14	68.53	3	11-12	42.98
French 20	8	118.97	5	11-12	89.76
Law 20	15	107.70	5	11-12	57.64
Physical Education 20	9	132.14	5	11-12	115.92
Bookkeeping 20	1	870.75	5	11-12	136.15
Clerical Practice 20	16	54.42	5	11-12	86.09
Typewriting 20	5	86.40	5	11-12	123.54
English 30	21	51.75	5	12	64.96
English 33	9	120.75	5	12	74.70
Social Studies 30	15	107.70	5	12	78.81
Social Studies 36	8	114.63	5	12	63.15
Economics 30	6	181.13	5	12	70.61
Mathematics 30	5	208.94	5	12	81.60
Mathematics 32	5	208.94	5	12	116.52
Biology 30	9	116.59	5	12	73.65

APPENDIX G

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Table 28

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Didsbury High School					
Supervised Study	519	14.69	N/A	7-12	20.48
Reading	31	17.84	2	7-9	24.77
Creative Writing	48	12.60	4	7-9	21.90
Social Studies Option	107	30.02	3.3	7-9	25.15
Community Economics	63	29.69	3	7-9	38.38
Geography	84	22.43	2	7-9	30.05
Science Option	214	20.20	2	7-9	26.45
Music	56	19.75	2	7-9	27.41
Drama	90	12.27	2	7-9	24.28
Home Room Period	74	12.33	1.5	7	12.33
Physical Education	74	37.29	2	7	28.70
Language Arts	73	49.61	6	7	55.37
Mathematics	97	61.61	5	7	43.78
Social Studies	97	53.91	6	7	46.87
Science	95	71.73	6	7	60.84
Health	49	37.54	2	7	21.91
Arts and Crafts	72	30.73	2	7	41.20
Home Room	46	9.92	1	8	9.92
Physical Education	48	43.46	3	8	32.14
Language Arts	73	75.61	7	8	57.41
Mathematics	73	53.75	5	8	46.07
Social Studies	73	60.15	6	8	46.41
Science	73	53.75	5	8	38.40
Health	48	19.01	2	8	19.02
Home Economics	42	54.77	4	8	58.35
Industrial Arts	39	30.17	4	8	30.17
Guidance	100	20.50	1.5	9	16.71
Physical Education	82	24.99	3	9	25.53
Language Arts	74	95.68	6	9	75.65

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Mathematics	75	62.95	5	9	55.43
Social Studies	75	30.23	5	9	52.83
Science	75	62.95	5	9	53.13
Health	82	16.78	1	9	18.90
Home Economics	45	51.12	4	9	43.39
Industrial Arts	48	24.51	4	9	24.51
English 10	22	67.76	5	10-12	58.57
Social Studies 10	82	70.29	5	10-12	65.08
Mathematics 10	54	47.33	5	10-12	38.36
Mathematics 15	23	38.59	5	10-12	47.39
Biology 10	48	42.80	3	10-12	28.43
Chemistry 10	52	24.40	3	10-12	25.64
Physics 10	41	30.95	3	10-12	30.14
Science 11	28	31.70	5	10-12	55.51
French 10	40	51.36	5	10-12	44.83
Drama 10	16	108.53	5	10-12	87.40
Physical Education 10	70	16.49	2.5	10-12	31.84
Shorthand 10	14	224.57	5	10-12	93.80
Typing 10	64	29.44	6	10-12	41.62
Home Economics 10	17	108.47	5	10-12	65.64
Foods & Nutrition 10	26	73.73		10-12	70.15
Drafting 10	2	146.25	6	10-12	146.25
Industrial Arts 10	56	59.98	5	10-12	78.05
English 20	76	62.08	5	10-12	58.93
English 23	16	46.21	5	10-12	82.76
Language 22	56	57.63	5	10-12	62.67
Literature 21	14	124.04	2.5	10-12	63.64
Social Studies 20	48	58.01	5	10-12	52.07

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 196901970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Geography 20	19	48.35	5	10-12	53.75
Sociology 20	29	51.40	5	10-12	42.92
Mathematics 20	49	52.16	5	10-12	52.54
Mathematics 21	16	55.47	5	10-12	67.19
Biology 20	18	56.75	3	10-12	59.99
Chemistry 20	36	46.03	3	10-12	35.64
French 20	27	76.09	5	10-12	49.69
Dramatics 20	10	86.26	5	10-12	86.26
Law 20	27	31.95	2.5	10-12	44.64
Clerical Practice 20	10	314.39	5	10-12	100.23
Typewriting 20	22	71.20	5	10-12	65.85
Drafting 20	2	146.25	3	10-12	146.25
Industrial Arts General 20	31	79.65	4.3	10-12	90.94
English 30	23	69.65	5	12	59.54
English 36	14	114.42	5	12	114.42
English 33	16	46.21	5	12	80.62
Social Studies 30	60	46.41	5	12	62.01
Mathematics 30	17	172.64	5	12	76.45
Mathematics 36	22	66.70	5	12	66.70
Mathematics 31 (calculus)	9	163.05	5	12	169.49
Biology 30	12	171.20	5	12	136.67
Chemistry 30	36	92.69	5	12	76.26
French 30	15	136.96	5	12	93.61
Dramatics 30	3	287.53	5	12	287.53
Typewriting 30	18	87.02	5	12	111.71
Drafting 30	2	146.25	3	12	146.25

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Industrial Arts General 30	12	157.01	5.0	12	110.56
Ross Ford Elementary					
Physical Education	N/A	103.04	-	1-6	103.04
Remedial Reading	5	273.50	-	1-6	273.50
Speech Therapy	2	755.87	-	1-6	755.87
Opening Exercises	80	12.60	1.25	1	11.72
Home Room Period	80	26.73	2.625	1	19.54
Physical Education	80	13.74	1.125	1	10.77
Printing	80	25.30	2.5	1	16.88
Reading	80	147.17	11.9	1	105.20
Spelling	80	18.95	1.875	1	18.13
Arithmetic	80	52.41	5.01	1	42.60
Enterprise	80	26.73	2.625	1	22.91
Science	80	7.49	.75	1	13.72
Music	80	15.26	1.5	1	14.86
Art	80	23.03	2.25	1	14.71
Opening Exercises	82	8.10	1.25	2	12.33
Library	82	5.66	1.0	2	7.60
Physical Education	82	8.18	1.125	2	7.65
Language	82	16.29	2.5	2	25.93
Printing	82	14.57	2.5	2	15.54
Reading	82	70.43	10.25	2	67.49
Spelling	82	21.64	7.5	2	21.46
Arithmetic	82	32.07	4.75	2	35.54

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Enterprise	82	23.54	4.625	2	23.65
Science	82	12.18	2.2	2	16.67
Health	55	7.95	2.2	2	7.36
Music	82	7.99	1.0	2	7.25
Art	82	10.69	3.4	2	11.07
Opening Exercises	90	17.26	2.5	3	14.16
Library	60	7.45	1.125	3	9.00
Home Room Period	30	7.83	1.25	3	8.31
Physical Education	90	11.76	1.75	3	12.60
Language Arts	90	18.20	3.25	3	22.35
Printing	30	9.44	1.5	3	13.16
Reading	90	53.12	8.125	3	60.30
Spelling	90	14.33	1.75	3	20.56
Arithmetic	90	35.52	5.5	3	42.65
Enterprise	90	24.09	2.75	3	28.11
Science	90	17.34	2.75	3	25.15
Health	60	12.45	1.875	3	10.08
Music	90	8.96	1.375	3	11.69
Art	90	8.11	1.125	3	11.68
Library	58	4.83	.75	4	9.14
Physical Education	84	10.29	1.5	4	10.12
Language Arts	84	38.69	4.375	4	31.34

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Writing	86	9.37	1.1	4	11.87
Reading	84	38.69	4.375	4	56.20
Spelling	86	12.14	2.0	4	16.90
Mathematics	84	51.61	4.375	4	47.46
Social Studies	84	52.13	7.5	4	45.44
Science	84	15.59	2.25	4	18.79
Health	85	10.64	1.5	4	10.60
Art	84	5.14	1.5	4	7.82
Music	86	10.51	.75	4	11.19
Library	55	14.97	1.125	5	9.65
Home Room	56	9.98	.75	5	8.50
Physical Education	84	11.10	1.375	5	12.72
Language Arts	81	20.62	2.25	5	26.67
Writing	83	7.24	.75	5	9.75
Spelling	81	26.44	2.625	5	21.12
Literature	81	68.94	7.5	5	70.05
Mathematics	81	71.16	7.0	5	58.02
Social Studies	81	56.90	7.0	5	67.16
Science	81	14.10	1.75	5	37.97
Health	84	6.02	.75	5	12.03
Music	81	13.74	1.5	5	13.31
Art	81	14.26	1.5	5	11.69
Library	82	13.84	.75	6	15.74

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Home Room Period	82	5.28	1.25	6	6.03
Physical Education	109	15.85	1.0	6	11.28
Language Arts	81	20.60	8.75	6	25.04
Reading	84	45.67	7.5	6	43.05
Spelling	81	19.37	3.0	6	19.60
Mathematics	109	56.61	7.0	6	46.83
Social Studies	81	73.29	3.3	6	49.49
Science	81	24.68	1.5	6	22.46
Music	114	16.84	1.5	6	19.66
Art	54	12.08	1.5	6	13.00
Carstairs School					
Opportunity Room	39	973.33	37.9	4	973.33
Opening Exercises	48	9.23	1.125	1	11.72
Physical Education	24	13.02	1.5	1	10.77
Language Arts	24	22.03	2.5	1	30.84
Printing	48	19.35	2.2	1	16.88
Reading	48	120.73	13.25	1	105.20
Library	48	14.25	1.625	1	15.90
Spelling	48	16.55	1.875	1	18.13
Arithmetic	48	47.17	10.5	1	42.60
Enterprise	48	27.64	3.0	1	22.91
Science	78	17.13	1.5	1	13.72

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Health	48	9.74	1.125	1	9.48
Music	48	13.15	1.5	1	14.86
Art	48	15.36	1.75	1	14.71
Opening Exercises	31	5.47	1.25	2	12.33
Physical Education	61	4.31	1.75	2	7.65
Language Arts	61	13.30	2.2	2	25.93
Printing	61	18.57	3.5	2	15.54
Reading	61	72.65	13.0	2	67.49
Library	61	3.79	.75	2	7.60
Spelling	61	8.20	1.625	2	21.46
Arithmetic	61	34.24	6.5	2	25.34
Enterprise	31	16.41	3.75	2	23.65
Science	61	16.38	2.5	2	16.67
Music	91	5.63	1.5	2	7.29
Art	61	10.15	2.0	2	11.07
Opening Exercises	61	23.70	2.5	3	14.16
Physical Education	30	30.38	3.5	3	12.40
Language Arts	61	23.70	2.5	3	22.35
Printing	61	23.70	2.5	3	13.16
Reading	61	84.63	9.0	3	60.30
Library	61	7.11	.75	3	9.00
Spelling	61	23.70	2.5	3	20.56
Mathematics	61	47.73	5.0	3	42.65

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Enterprise	61	40.62	4.25	3	28.11
Science	30	41.30	5.375	3	25.15
Health	61	14.22	1.5	3	10.08
Music	31	35.88	3.5	3	11.69
Art	61	14.22	2.5	3	11.68
Opening Exercises	54	12.80	1.25	4	10.88
Home Room Period	27	5.89	.5	4	5.35
Physical Education	54	15.67	3.15	4	10.12
Language Arts	54	35.48	3.51	4	31.34
Writing	54	16.59	1.5	4	11.87
Reading	57	73.78	7.5	4	56.20
Library	54	11.11	1.2	4	9.14
Spelling	54	27.72	2.75	4	16.90
Arithmetic	52	71.93	6.75	4	47.46
Social Studies	54	52.77	5.0	4	45.44
Science	27	44.37	2.5	4	18.79
Health	27	17.66	1.5	4	10.60
Music	54	10.08	1.3	4	7.82
Art	54	18.17	.8	4	11.19
Opening Exercises	58	4.94	.5	5	7.29
Physical Education	27	7.63	2.0	5	12.72
Language	58	44.17	4.75	5	26.67
Writing	58	9.84	1.0	5	9.75

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Reading	58	58.48	6.5	5	35.70
Library	27	15.25	.75	5	9.65
Spelling	58	16.98	2.0	5	21.12
Mathematics	27	47.86	6.5	5	58.02
Social Studies	31	78.17	7.5	5	67.16
Science	32	41.04	5.5	5	37.97
Health	58	27.28	3.0	5	12.03
Music	31	31.12	1.25	5	13.31
Opening Exercises	28	5.84	.625	6	7.33
Supervised Study	27	6.23	.75	6	11.95
Home Room Period	55	7.16	.75	6	6.03
Physical Education	84	12.42	1.25	6	12.42
Language	83	24.64	4.25	6	25.04
Writing	28	6.95	.75	6	9.21
Reading	58	54.02	6.25	6	43.05
Library	55	14.07	1.53	6	15.74
Spelling	55	25.15	3.0	6	19.60
Mathematics	54	60.57	6.25	6	46.83
Social Studies	56	52.35	6.25	6	49.49
Science	28	27.75	3.0	6	22.46
Health	27	13.65	1.51	6	14.36
Music	55	11.52	1.0	6	19.66
Art	56	13.59	1.75	6	13.00

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Reading Option	23	48.06	5	7-9	48.06
Language Arts Option	50	31.54	3	7-9	33.03
Mathematics Option	56	22.80	3	7-9	29.72
Geography	20	62.07	3	7-9	30.05
Science Option	79	54.08	3	7-9	26.45
Music	46	39.62	3	7-9	27.41
Art	29	45.85	3	7-9	23.78
Industrial Arts General	20	174.64	5	7-9	40.92
Physical Education	27	29.77	3	7	28.07
Language	55	58.35	7.5	7	55.73
Mathematics	56	38.69	5	7	43.78
Social Studies	27	38.32	5	7	46.81
Science	55	56.96	5	7	60.84
Health	28	15.73	2	7	21.91
Industrial Arts	16	73.13	4	7	41.20
Home Economics	28	49.94	4	7	82.35
Physical Education	20	40.19	3	8	32.14
Language Arts	54	78.11	8	8	57.14

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Mathematics	40	54.16	5	8	46.07
Social Studies	22	47.02	5	8	46.41
Science	38	82.44	5	8	38.40
Health	20	22.03	2	8	19.02
Home Economics	22	63.56	4	8	58.35
Industrial Arts	12	93.75	4	8	93.75
Guidance	53	20.65	2	9	16.71
Physical Education	28	28.71	3	9	25.53
Language Arts	42	87.76	7	9	75.65
Mathematics	56	38.04	5	9	55.43
Social Studies	56	44.69	5	9	52.83
Social Studies Option	60	24.98	3	9	24.98
Science	28	55.94	5	9	53.13
Health	58	16.42	1	9	18.90
Typing	54	33.23	3	9	36.62
English 13	44	41.79	5	10-12	47.84
Social Studies 10	24	104.27	5	10-12	65.08
Mathematics 10	27	39.30	5	10-12	32.87
Mathematics 15	23	65.88	5	10-12	42.11
Chemistry 10	15	50.51	3	10-12	25.64
Physics 10	15	50.51	3	10-12	30.14
French 10	54	34.05	5	10-12	44.83
Arts 10	5	141.88	5	10-12	141.88
Physical Education 10	54	49.68	5	10-12	31.85
Bookkeeping 10	27	39.30	5	10-12	52.84
Typewriting 10	48	59.11	5	10-12	41.62
Fabrics & Dress 10	8	109.15	5	10-12	119.08
Industrial Arts General 10	11	133.63	5	10-12	78.05
English 23	44	63.40	5	10-12	63.40

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Language 22	40	69.73	5	10-12	62.67
Sociology 20	50	36.77	5	10-12	42.92
Mathematics 21	22	68.87	5	10-12	67.99
Biology 20	25	57.75	3	10-12	59.99
Chemistry 20	13	58.28	3	10-12	35.64
Physics 20	13	58.28	3	10-12	42.27
Art 20	5	141.88	5	10-12	141.88
Law 20	56	49.81	5	10-12	44.64
Physical Education 20	24	56.10	5	10-12	47.97
Bookkeeping 20	4	374.50	5	10-12	164.80
Industrial Arts 20	10	73.00	5	10-12	90.94
English 33	14	101.34	5	12	80.62
Social Studies 30	30	48.33	5	12	62.01
Mathematics 31	5	299.65	5	12	169.49
Chemistry 30	16	49.35	5	12	76.26
Physics 30	10	75.76	5	12	97.97
French 30	26	70.72	5	12	93.61
Industrial Arts General 30	9	81.11	5	12	110.56
Olds Elementary School					
Opportunity Class	22	762.10	37.5		615.38
Remedial Reading	23	290.45	10	1-6	246.58
Remedial Mathematics	7	289.42	6	1-6	289.42
Opening Exercises	128	13.14	2	1	11.72
Home Room Period	63	10.41	2	1	19.03
Physical Education	96	5.83	1	1	10.77
Language Arts	127	25.17	4.4	1	30.48

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Printing	96	11.26	1.6	1	16.88
Reading	116	79.46	11.4	1	105.20
Library	64	11.09	1.5	1	15.90
Remedial Reading	12	207.81	7.5	1	207.81
Arithmetic	128	29.55	5.0	1	42.60
Enterprise	128	21.58	2.75	1	22.91
Science	96	11.46	2.625	1	13.72
Health	97	10.46	1.5	1	9.48
Music	161	17.85	2.0	1	14.86
Art	96	11.46	2 0	1	14.71
Opening Exercises	176	13.87	2.25	2	12.33
Physical Education	88	4.94	.55	2	7.65
Language	148	29.26	4.25	2	25.95
Printing	146	15.55	2.25	2	15.54
Reading	147	47.84	7.5	2	67.49
Library	88	5.10	.75	2	7.60
Spelling	146	25.13	3.25	2	21.46
Arithmetic	155	49.80	7.5	2	35.34
Enterprise	147	28.26	4.0	2	23.65
Science	145	17.54	2.0	2	16.67
Health	124	4.79	.75	2	7.36
Music	265	5.21	.75	2	7.25
Art	119	12.47	1.5	2	11.07
Opening Exercises	112	11.04	1.25	3	14.16
Home Room Period	28	5.72	.5	3	8.31
Physical Education	28	4.89	.75	3	12.40
Language	112	27.67	4.8	3	22.35
Writing	84	9.95	1.5	3	13.16
Reading	114	49.62	9.4	3	60.30
Library	112	6.70	.625	3	9.00

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Spelling	84	27.59	4.0	3	20.56
Arithmetic	77	42.88	4.4	3	42.65
Social Studies	84	26.01	3.8	3	28.11
Science	84	20.14	3.0	3	25.15
Health	124	5.17	.75	3	10.08
Art	28	22.99	3.0	3	11.68
Opening Exercises	138	13.25	1.5	4	10.88
Home Room Period	138	4.49	.75	4	5.35
Physical Education	140	7.36	1.1	4	10.12
Language	138	25.78	3.75	4	31.34
Writing	105	11.37	1.5	4	11.87
Reading	134	57.35	7.5	4	56.20
Library	33	5.18	.75	4	9.14
Spelling	138	17.10	2.5	4	16.90
Mathematics	138	44.12	6.625	4	47.46
Social Studies	138	49.10	7.0	4	45.44
Health	103	11.43	1.65	4	10.60
Music	174	7.70	1.0	4	7.82
Art	138	10.33	1.0	4	11.19
Opening Exercises	34	7.62	1.25	5	7.29
Home Room Period	35	4.49	.75	5	8.50
Language	104	23.63	3.75	5	26.67
Reading	121	20.56	5.6	5	35.70
Library	69	6.83	1.1	5	9.65
Spelling	104	24.15	4.0	5	21.12
Remedial Reading	84	35.57	2.0	5	35.57
Mathematics	121	39.79	7.3	5	58.02
Social Studies	104	35.70	6.6	5	67.16
Science	69	18.54	3.0	5	37.97
Health	104	8.02	1.5	5	12.03
Music	121	11.73	1.5	5	13.31

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Art	69	9.10	1.5	5	11.69
Opening Exercises	101	9.61	1.25	6	7.33
Physical Education	280	8.55	2.0	5+6	11.28
Language	134	25.98	3.75	6	25.04
Writing	101	9.61	1.25	6	9.21
Reading	165	35.40	6.0	6	43.05
Library	67	14.51	1.5	6	15.74
Spelling	101	20.16	2.5	6	19.60
Mathematics	134	26.15	5.5	6	46.83
Social Studies	101	49.20	6.0	6	49.49
Science	245	13.97	2.0	5+6	22.46
Health	101	11.61	1.5	6	14.36
Music	120	11.00	1.25	6	19.66
Art	138	9.95	1.5	6	13.00
Drama	120	4.39	.75	5+6	4.39
Olds High School					
Supervised Study	540	28.89	N/A	7-12	20.48
Mathematics Option					
Social Studies Option	108	21.13	2.5	7-9	25.15
Health	55	21.95		7-9	66.74
Science Option	196	24.13	2.5	7-9	26.45
Art	292	21.59	2.5	7-9	23.78
Dramatics	228	20.62	2.5	7-9	24.28
Arts and Crafts	60	47.31	2.08	7-9	40.92
French	204	28.31	3.67	7-9	28.31
Supervised Study	25	21.02	2.5	7	21.62
Physical Education	112	24.39	2.5	7	28.70
Language	112	76.06	7.5	7	55.37
Mathematics	216	39.02	5.0	7	43.78

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Social Studies	112	39.36	5	7	46.87
Science	27	35.08	5	7	60.84
Health	112	24.39	2.5	7	21.91
Music	34	28.86	2.0	7	18.03
Physical Education	78	24.08	2.5	8	32.14
Language	108	41.28	7.5	8	57.41
Science	112	60.16	5	8	38.40
Mathematics	112	33.90	5	8	46.07
Social Studies	108	34.56	5	8	46.41
Health	78	24.08	2.5	8	19.02
Home Economics	72	20.38	3	8	58.35
Industrial Arts	54	32.50		8	62.83
Supervised Study	27	20.64	2.5	9	15.09
Guidance	124	14.80	2.1	9	16.71
Physical Education	107	25.54	2	9	25.53
Language	125	43.54	5.75	9	75.65
Mathematics	120	67.53	5	9	55.43
Social Studies	124	65.35	5	9	52.83
Science	125	59.41	5	9	
Health	107	21.57	2	9	18.90
Home Economics	73	26.71	4.3	9	43.39
Industrial Arts	18	97.50	2.3	9	61.84
Supervised Study	22	28.53	5	10-12	13.77
English 10	77	53.03	5	10-12	58.57
English 13	61	41.47	5	10-12	47.84
Social Studies 10	108	67.70	5	10-12	38.36
Mathematics 10	120	32.00	5	10-12	47.39
Mathematics 15	62	47.06	5	10-12	47.39
Biology 10	90	17.14	3	10-12	28.43

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Chemistry 10	104	22.14	3	10-12	25.64
Physics 10	120	22.56	3	10-12	30.14
Science 11	61	69.40	5	10-12	55.51
French 11	75	70.19	5	10-12	70.19
Physical Education 10	138	21.74	2	10-12	31.84
Bookkeeping 10	29	43.48	5	10-12	52.84
Business Fundamentals 10	72	23.77	2.5	10-12	30.97
Shorthand 10	33	38.33	5	10-12	93.80
Typewriting 10	142	41.47	3	10-12	41.62
Fabrics and Dress 10	14	62.38	5	10-12	119.08
Foods and Nutrition 10	38	49.94	5	10-12	49.94
Home Economics 11	6	145.55	5	10-12	145.55
Industrial Arts					
General 10	120	76.56	5	10-12	78.05
Metal Work 10	32	88.71	5	10-12	88.71
English 20	81	50.41	5	10-12	58.93
English 23	20	145.92	5	10-12	82.76
Literature 21	73	52.06	5	10-12	63.64
Social Studies 20	92	60.98	5	10-12	52.07
Geography 20	27	51.94	5	10-12	53.75
Psychology 20	24	33.47	2.5	10-12	33.47
Sociology 20	36	44.62	5	10-12	42.92
Mathematics 20	81	50.20	5	10-12	52.54
Mathematics 25	43	67.86	5	10-12	62.71
Biology 20	60	51.43	3	10-12	59.99
Chemistry 20	69	25.00	3	10-12	35.64
Physics 20	64	34.57	3	10-12	42.27
French 21	46	76.21	5	10-12	76.21
Law 20	29	46.47	5	10-12	44.64

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Bookkeeping 20	25	62.75	5	10-12	165.80
Business Machines 22	26	48.65	5	10-12	48.65
Clerical Practice 20	31	40.80	5	10-12	100.23
Merchandising 20	28	56.03	5	10-12	46.25
Shorthand 20	8	78.46	5	10-12	78.46
Typewriting 20	26	64.45	5	10-12	65.85
Fabrics and Dress 20	31	60.52	5	10-12	85.72
Foods and Nutrition 20	26	67.18	5	10-12	70.45
English 30	55	45.96	5	12	59.54
English 33	23	54.95	5	12	80.62
Social Studies 30	46	60.98	5	12	62.01
Mathematics 30	50	38.40	5	12	76.45
Mathematics 31	18	53.33	5	12	169.49
Biology 30	20	154.28	5	12	136.67
Chemistry 30	44	52.33	5	12	76.26
Physics 30	29	50.86	5	12	97.97
French 31	26	67.18	5	12	67.18
Business Organization and Management	9	140.54	5	12	140.54
Office Practice 30	17	98.56	5	12	98.56
Shorthand 30	8	78.46	5	12	78.46
Typewriting 30	15	111.71	5	12	114.37
Fabrics and Dress 30	12	83.57	5	12	83.57
Sundre School					
Opportunity Class	13	496.38	37.5	-	423.89
Opening Exercises	66	10.50	.83	1	11.72
Physical Education	66	12.06	1.5	1	10.77
Language Arts	66	51.75	5.0	1	30.84
Printing	66	14.88	1.875	1	16.88

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Reading	66	71.44	10.0	1	105.20
Library	66	23.17	1.0	1	15.90
Spelling	13	27.02	1.5	1	18.13
Arithmetic	66	50.89	6.0	1	42.60
Enterprise	66	10.79	1.5	1	22.91
Science	66	10.79	1.5	1	13.72
Health	40	8.82	1.5	1	9.48
Music	66	10.50	1.5	1	14.86
Art	66	12.06	1.5	1	14.71
Opening Exercises	66	14.85	.8	2	12.33
Physical Education	66	12.18	1.5	2	7.65
General Remedial Instruction	5	197.78	3.5	2	197.98
Language Arts	66	45.01	4.4	2	25.93
Printing	41	14.55	1.8	2	15.54
Reading	66	66.10	8.0	2	67.49
Library	66	12.68	1.5	2	7.60
Spelling	66	20.98	2.25	2	21.46
Mathematics	66	46.67	5.6	2	35.34
Social Studies	66	17.31	2.0	2	23.65
Science	66	20.95	2.25	2	16.67
Health	66	11.55	1.25	2	7.36
Music	66	14.85	1.75	2	7.25
Art	66	10.97	1.0	2	11.07
Opening Exercises	81	9.95	1.25	3	14.16
Home Room Period	30	11.21	1.5	3	11.21
Physical Education	81	11.73	1.5	3	12.40
Language	81	20.92	3.0	3	22.35
Writing	81	11.99	2.0	3	13.16
Reading	81	68.30	9.5	3	60.30

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Library	81	14.98	2.5	3	9.00
Spelling	49	20.85	2.5	3	20.56
Mathematics	81	42.74	6.5	3	42.65
Social Studies	81	26.93	3.0	3	28.11
Science	18	30.53	2.5	3	25.15
Health	30	21.63	2.8	3	10.08
Music	81	8.00	1.0	3	11.69
Art	81	12.58	1.5	3	11.68
Opening Exercises	74	5.72	.6	4	10.88
Home Room Period	12	14.02	1.5	4	5.35
Physical Education	73	9.76	1.5	4	10.12
Language Arts	74	22.30	2.25	4	31.34
Writing	74	12.69	1.8	4	11.87
Reading	74	55.70	9.3	4	46.30
Library	45	10.18	1.5	4	9.14
Spelling	74	13.16	2.0	4	16.90
Mathematics	74	34.73	6.25	4	47.46
Social Studies	74	33.44	4.0	4	45.44
Science	74	9.93	1.75	4	18.79
Health	74	8.98	1.5	4	10.60
Music	74	6.49	1.0	4	7.82
Art	74	9.31	1.5	4	11.19
Opening Exercises	40	8.95	1.25	5	7.29
Supervised Study	28	13.72	2.25	5	14.55
Home Room Period	68	9.34	1.25	5	8.50
Physical Education	68	12.86	1.75	5	12.72
Language Arts	68	20.12	2.25	5	26.67
Writing	68	9.85	1.5	5	9.75
Reading	68	52.99	6.5	5	35.70

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Library	68	10.86	1.25	5	9.65
Spelling	68	12.86	1.5	5	21.12
Mathematics	68	52.08	7.0	5	58.02
Social Studies	68	38.12	5.0	5	67.16
Science	40	24.18	2.0	5	37.97
Health	68	12.33	1.5	5	12.03
Music	68	6.94	2.0	5	13.31
Art	68	9.71	1.5	5	11.69
Opening Exercises	62	4.40	.75	6	7.33
Physical Education	62	11.23	1.75	6	11.28
Language Arts	30	28.19	4.0	6	25.04
Reading	62	47.55	8.0	6	43.05
Library	62	19.53	1.1	6	15.74
Spelling	62	9.03	1.5	6	19.60
Mathematics	62	48.22	8.0	6	46.83
Social Studies	62	24.88	4.1	6	49.49
Science	62	18.58	3.7	6	22.46
Health	30	24.07	3.5	6	14.36
Art	30	29.57	4.1	6	13.00
Supervised Study	308	21.23	N/A	-	20.48
Reading Option	48	29.24	4.0	7-9	24.77
Creative Writing	9	71.88	2.0	7-9	21.90
Science Option	102	27.53	2.0	7-9	26.45
Dramatics	62	43.51	2.0	7-9	24.28
Arts and Crafts	163	22.15	2.0	7-9	40.92
Supervised Study	30	22.21	3.0	7	21.67
Physical Education	81	17.17	2.0	7	28.70
Language Arts	87	30.82	4.0	7	55.37

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Library	87	7.66	1	7	7.66
Spelling	81	16.91	2	7	16.91
Literature	87	23.16	3	7	23.16
Mathematics	81	35.85	5	7	43.78
Social Studies	81	42.32	5	7	46.87
Social Studies Option	21	21.28	2	7	21.28
Health	81	16.91	2	7	21.91
Music	70	12.77	2	7	18.03
Dramatics	18	24.83	2	7	24.83
Home Economics Level 1	36	83.23	4	7	82.35
Arts and Crafts	42	52.17	4	7	41.20
Physical Education	87	15.98	2	8	32.14
Language Arts	87	48.40	4	8	57.41
Library	29	19.40	2	8	19.40
Spelling	87	24.13	2	8	24.13
Literature	87	19.48	2	8	23.62
Mathematics	87	36.75	5	8	46.07
Social Studies	87	32.42	5	8	46.41
Science	87	27.38	4	8	38.40
Art	96	15.68	2	8	15.68
Home Economics Level 2	42	71.34	4	8	58.35
Arts and Crafts	45	48.69	4	8	62.83
Supervised Study	31	10.25	1	9	15.09
Guidance	64	11.00	1	9	16.71
Physical Education	60	15.40	2	9	25.53
Language Arts	62	94.10	7	9	75.65
Library	62	10.43	1	9	10.43
Mathematics	64	55.33	5	9	55.43
Social Studies	62	57.12	5	9	52.83

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Science	62	41.74	4	9	53.13
Health	62	11.35	1	9	18.90
Home Economics Level 3	26	76.83	4	9	43.39
Arts and Crafts	34	42.96	4	9	61.84
Typing	62	11.00	1	9	36.62
English 13	58	41.38	5	10-12	45.17
Social Studies 10	50	32.05	5	10-12	65.08
Mathematics 10	35	37.06	5	10-12	38.36
Mathematics 15	30	47.29	5	10-12	47.39
Chemistry 10	28	27.85	3	10-12	28.43
Physics 10	6	141.88	3	10-12	30.14
Science 11	31	45.77	5	10-12	55.51
French 10	50	32.05	5	10-12	44.83
Dramatics 10	20	70.49	3	10-12	87.40
Physical Education 10	35	44.63	4	10-12	31.84
Bookkeeping 10	25	44.16	5	10-12	52.84
Business Fundamentals 10	28	23.71	3	10-12	30.97
Recordkeeping 10	15	44.27	3	10-12	44.27
Typewriting 10	120	39.36	5	10-12	41.62
Social Studies 20	16	15.91	5	11-12	52.07
Mathematics 20	16	81.06	5	11-12	52.54
Mathematics 22	8	80.56	5	11-12	80.56
Biology 20	30	61.50	3	11-12	59.99
Chemistry 20	16	53.20	3	11-12	58.28
Physics 20	5	170.25	3	11-12	42.27
French 20	50	32.05	5	11-12	49.69
Physical Education 20	25	36.97	2	11-12	73.82
Bookkeeping 20	12	92.00	5	11-12	165.80

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Clerical Practice 20	14	78.86	5.0	11-12	100.23
Merchandising 20	25	44.16	5.0	11-12	46.25
Typewriting 20	18	61.33	5.0	11-12	65.85
Fabrics and Dress 20	22	121.24	4.0	11-12	85.72
Industrial Arts General 20	22	88.66	4.0	11-12	90.94
English 30	40	60.00	5.0	12	59.54
English 33	32	73.80	5.0	12	80.62
Social Studies 30	20	60.00	5.0	12	62.01
Social Studies 36	20	60.00	5.0	12	79.66
Mathematics 30	16	81.06	5.0	12	76.45
Mathematics 31	18	150.87	5.0	12	157.64
Biology 30	18	140.61	5.0	12	136.67
Chemistry 30	17	83.46	5.0	12	76.26
Physics 30	6	236.46	5.0	12	97.97
Physical Education 30	18	129.03	5.0	12	129.03
Typewriting 30	5	220.80	5.0	12	114.37
Cremona School					
Opening Exercises	34	4.22	5.0	1	11.72
Physical Education	34	13.76	1.5	1	10.77
Language Arts	34	19.78	3.0	1	30.84
Printing	34	12.39	1.5	1	16.88
Reading	34	95.49	12.5	1	105.20
Library	34	8.01	1.0	1	15.90
Spelling	34	14.04	1.0	1	18.13
Arithmetic	34	35.82	5.0	1	42.60
Enterprise	34	31.40	4.0	1	22.91
Science	40	27.81	1.5	1	13.72
Health	34	7.83	1.0	1	9.48

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Music	34	13.76	2.0	1	14.86
Art	34	11.61	1.5	1	14.71
Opening Exercises	32	9.98	1.6	2	12.33
Physical Education	32	9.93	1.5	2	7.65
Language Arts	32	19.31	2.5	2	25.93
Printing	32	11.57	1.8	2	15.54
Reading	32	72.65	11.0	2	67.49
Library	23	6.17	1.0	2	7.60
Spelling	32	19.08	3.0	2	21.46
Arithmetic	32	34.01	5.0	2	35.34
Enterprise	32	32.40	5.0	2	23.63
Science	32	23.17	1.5	2	16.67
Health	32	7.15	1.0	2	7.36
Music	32	9.93	1.5	2	7.25
Art	32	9.93	1.5	2	11.07
Opening Exercises	34	7.67	1.25	3	14.16
Physical Education	34	10.69	1.75	3	12.40
Language Arts	34	19.98	3.25	3	22.35
Writing	34	11.39	1.9	3	13.16
Reading	34	53.67	8.75	3	60.30
Library	34	6.04	1.0	3	9.00
Spelling	34	15.34	2.5	3	20.56
Arithmetic	34	46.70	7.6	3	42.65
Enterprise	34	32.30	5.25	3	28.11
Science	34	49.07	4.5	3	25.15
Health	34	9.06	1.5	3	10.08
Music	34	25.42	1.5	3	11.69
Art	34	9.06	1.5	3	11.68
Opening Exercises	27	4.15	.75	4	10.88
Physical Education	27	16.61	2.0	4	10.12

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Remedial Instruction	8	88.11	3.0	4	88.11
Language Arts	27	62.60	7.5	4	31.34
Reading	27	62.60	7.5	4	56.20
Library	27	8.31	1.0	4	9.14
Mathematics	26	49.60	5.75	4	47.46
Social Studies	27	46.87	5.5	4	45.44
Science	26	31.87	2.25	4	18.79
Health	27	8.31	1.0	4	10.60
Music	26	21.39	1.5	4	7.82
Art	27	12.46	1.5	4	11.19
Opening Exercises	32	6.52	.85	5	7.29
Physical Education	32	14.95	2.0	5	12.72
Language Arts	32	28.00	3.75	5	26.67
Writing	32	13.87	1.8	5	9.75
Reading	32	56.01	7.5	5	35.70
Library	32	7.34	1.0	5	9.65
Spelling	32	13.87	1.8	5	21.12
Mathematics	32	65.52	8.75	5	58.02
Social Studies	32	42.14	5.5	5	67.17
Science	31	86.77	6.0	5	37.97
Health	32	11.15	1.5	5	12.03
Music	31	17.94	1.0	5	13.31
Art	32	11.15	1.5	5	11.69
Opening Exercises	33	4.59	1.0	6	7.33
Physical Education	33	10.52	2.0	6	11.28
Language Arts	33	19.69	3.75	6	25.04
Writing	33	7.84	1.5	6	9.21
Reading	33	35.57	6.75	6	43.05
Library	33	5.16	1.0	6	15.74
Spelling	33	19.69	3.75	6	19.60

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Mathematics	33	52.58	10	6	46.83
Social Studies	33	15.68	3	6	49.49
Science	31	71.76	6	6	22.46
Health	33	10.52	2	6	14.36
Music	31	17.94	1.5	6	19.66
Art	33	8.41	1.625	6	13.00
Supervised Study	155	7.59	N/A	-	20.48
Literature	27	34.57	3	7-9	25.44
Creative Writing	26	21.77	3	7-9	21.90
Language Arts Option	26	35.90	3	7-9	33.03
Mathematics Option	25	22.51	3	7-9	29.72
Social Option	26	21.77	3	7-9	25.15
Health	27	13.96	2	7-9	16.74
Science Option	105	21.70	3	7-9	26.45
Dramatics	52	29.38		7-9	24.28
Physical Education	27	21.19	3	7	28.70
Language Arts	26	58.22	8	7	55.37
Mathematics	26	28.95	4	7	43.78
Social Studies	26	36.19	5	7	46.87
Science	26	29.25	4	7	60.84
Health	26	7.36	1	7	21.91
Art	26	35.90	3	7	35.90
Home Economics	13	58.49	4	7	82.35
Arts and Crafts	13	63.76	4	7	41.20
Physical Education	31	28.40	3	8	32.14
Language Arts	37	74.74	8	8	57.41
Mathematics	38	29.62	4	8	46.07
Social Studies	37	46.50	5	8	46.41
Science	37	30.42	4	8	38.40
Health	39	7.36	1	8	19.02

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Home Economics Level 2	14	54.31	4	8	58.35
Arts and Crafts	13	63.76	4	8	62.83
Typing	25	22.74	3	8	22.74
Guidance	36	17.08		9	16.71
Physical Education	44	20.01	3	9	25.53
Language Arts	38	98.82	8	9	75.65
Mathematics	39	28.86	4	9	55.43
Social Studies	38	61.55	5	9	52.83
Science	38	29.62	4	9	53.13
Health	13	6.82	1	9	18.90
Typing	26	21.87	3	9	36.62
Supervised Study	170	11.86	N/A	10-12	13.77
English 10	26	67.18	5	10-12	58.57
English 13	15	116.44	5	10-12	47.84
Mathematics 10	20	53.25	5	10-12	38.36
Mathematics 15	20	48.46	5	10-12	47.39
Biology 10	36	37.47	3	10-12	28.43
Chemistry 10	21	25.36	3	10-12	25.64
Physics 10	21	25.36	3	10-12	30.14
Science 11	17	62.65	5	10-12	55.51
French 10	40	68.83	5	10-12	44.83
Bookkeeping 10	20	48.46	5	10-12	52.48
Physical Education 10	49	53.45	3	10-12	31.84
Business Fundamentals 10	8	121.14	5	10-12	30.97
Typewriting 10	40	47.44	5	10-12	41.62
Home Economics 10	40	47.44	5	10-12	65.64
Industrial Arts General 10	38	54.62	5	10-12	78.05
English 20	22	79.39	5	11-12	58.93
English 23	19	91.93	5	11-12	82.76

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Language 21	23	75.94	5.0	11-12	75.94
Social Studies 20	36	37.47	5.0	11-12	52.07
Geography 20	17	62.65	5.0	11-12	53.75
Mathematics 20	25	42.60	5.0	11-12	52.54
Mathematics 21	13	81.92	5.0	11-12	67.99
Biology 20	36	37.47	3.0	11-12	59.99
Chemistry 20	21	25.36	3.0	11-12	35.64
Physics 20	21	25.36	3.0	11-12	42.47
French 20	52	52.95	5.0	11-12	49.69
Bookkeeping 20	7	138.45	5.0	11-12	165.80
Industrial Arts 20	5	206.87	5.0	11-12	90.84
English 30	21	83.17	5.0	12	59.54
English 33	26	67.18	5.0	12	80.62
Social Studies 30	22	61.32	5.0	12	62.01
Social Studies 36	12	112.42	5.0	12	79.66
Economics 30	16	84.31	5.0	12	84.31
Mathematics 30	16	88.56	5.0	12	76.45
Biology 30	16	84.31	5.0	12	136.67
Chemistry 30	18	78.72	5.0	12	76.26
French 30 (old)	30	91.78	5.0	12	93.61
Industrial Arts General	12	86.20	5.0	12	110.56
Reed Ranch School					
Language Arts	9	28.97	2.5	1	30.84
Printing	9	21.94	1.875	1	16.88
Reading	9	226.47	19.375	1	105.20
Arithmetic	9	86.90	8.5	1	42.60
Enterprise	9	22.82	2.0	1	22.91
Science	9	22.82	2.0	1	13.22
Health	9	7.90	.75	1	9.48
Music	9	7.90	.75	1	14.86
Art	9	7.90	.75	1	14.71

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Language	9	28.97	2.5	2	25.93
Printing	9	21.94	1.875	2	15.54
Reading	9	226.47	19.375	2	67.49
Arithmetic	9	86.90	8.5	2	35.34
Enterprise	9	22.82	2.0	2	23.65
Science	9	22.82	2.0	2	16.67
Health	9	7.90	.75	2	7.36
Music	9	7.90	.75	2	7.25
Art	9	7.90	.75	2	11.67
Physical Education	12	5.72	.75	3	12.40
Language	12	31.47	4.0	3	22.35
Writing	12	9.73	1.25	3	13.16
Reading	12	73.82	9.375	3	60.30
Spelling	12	19.46	2.5	3	20.56
Mathematics	12	88.13	11.25	3	42.65
Social Studies	12	17.17	2.25	3	28.11
Science	12	17.17	2.25	3	22.15
Health	12	5.72	.75	3	10.08
Music	12	5.72	.75	3	11.69
Art	12	8.58	1.125	3	11.68
Physical Education	13	5.28	.75	4	10.12
Language Arts	13	29.05	4.0	4	31.34
Writing	13	8.98	1.25	4	11.87
Reading	13	68.14	9.375	4	56.20
Spelling	13	17.96	2.5	4	16.90
Mathematics	13	81.35	11.25	4	47.46
Social Studies	13	15.85	2.25	4	45.44
Science	13	15.85	2.25	4	18.79
Health	13	5.28	.75	4	10.60
Music	13	5.28	.75	4	7.82
Art	13	7.92	1.125	4	11.19

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Physical Education	6	18.75	1.125	5	12.72
Language Arts	6	50.00	3.0	5	26.67
Reading	12	81.25	9.75	5	35.70
Spelling	6	37.50	1.25	5	21.12
Mathematics	6	125.00	7.5	5	58.02
Social Studies	6	125.00	7.5	5	67.16
Science	6	50.00	3.0	5	37.97
Health	6	30.00	1.875	5	12.03
Art	6	20.00	1.25	5	11.69
Physical Education	7	16.07	1.125	6	11.28
Language Arts	7	42.86	3.0	6	25.04
Reading	14	69.64	9.75	6	43.05
Spelling	7	32.14	1.25	6	19.60
Mathematics	7	107.14	7.5	6	46.83
Social Studies	7	107.14	7.5	6	49.49
Science	7	42.86	3.0	6	22.46
Health	7	25.71	1.875	6	14.36
Art	7	17.14	1.25	6	13.00
Physical Education	22	14.24	2.25	7-8	28.70
Library Period	22	7.12	1.125	7-8	7.66
Spelling	22	7.12	1.125	7-8	16.91
Literature	22	14.24	2.25	7-8	23.16
Social Studies	22	35.59	5.625	7-8	46.87
Health	22	7.12	1.125	7-8	21.91
Music	22	21.35	3.375	7-8	18.02
Dramatics	22	27.68	4.375	7-8	24.83
Mathematics	12	58.00	5.0	7	43.78
Language Arts	22	32.43	5.0	8	57.41
Mathematics	10	69.60	5.0	8	46.07
	22	31.64	5.0	8	38.40

Midway School

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND
CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA:
COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Opening Exercises	10	31.90	3.75	1	11.72
Physical Education	10	10.42	1.25	1	10.77
Language Arts	10	25.39	3.0	1	30.84
Printing	10	15.62	2.0	1	16.88
Reading	10	97.00	1.125	1	105.20
Spelling	10	21.48	2.5	1	18.13
Arithmetic	10	37.76	4.375	1	42.60
Enterprise	10	37.76	4.375	1	22.91
Science	10	13.67	2.5	1	13.72
Health	10	8.46	1.0	1	9.48
Music	10	10.42	1.25	1	14.86
Art	10	10.42	1.25	1	14.71
Opening Exercises	10	31.90	3.75	2	12.33
Physical Education	10	10.42	1.25	2	7.65
Language Arts	10	25.39	3.0	2	25.93
Printing	10	15.62	2.0	2	15.54
Reading	10	97.00	11.25	2	67.49
Spelling	10	21.48	2.5	2	29.28
Arithmetic	10	37.76	4.375	2	35.34
Enterprise	10	37.76	4.375	2	23.65
Science	10	13.67	2.5	2	16.67
Health	10	8.46	1.0	2	7.36
Music	10	10.42	1.25	2	7.25
Art	10	10.42	1.25	2	11.07
Opening Exercises	15	17.53	3.75	3	14.16
Physical Education	15	7.01	1.5	3	12.40
Language Arts	15	10.52	2.25	3	22.35
Writing	15	8.77	2.0	3	13.16
Reading	15	46.64	10.0	3	60.30
Spelling	15	17.53	3.75	3	20.56
Mathematics	15	17.53	3.75	3	42.65

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Social Studies	15	21.04	4.5	3	28.11
Science	15	10.52	2.25	3	25.15
Health	15	7.01	1.5	3	10.08
Music	15	5.26	1.125	3	11.69
Art	15	5.26	1.125	3	11.68
Opening Exercises	12	21.92	3.75	4	10.88
Physical Education	12	8.77	1.5	4	10.12
Language Arts	12	13.15	2.25	4	31.34
Writing	12	10.96	2.0	4	11.87
Reading	12	58.30	10.0	4	56.20
Spelling	12	21.92	3.75	4	16.90
Mathematics	12	21.92	3.75	4	47.46
Social Studies	12	26.30	4.5	4	45.44
Science	12	13.15	2.25	4	18.79
Health	12	8.77	1.5	4	10.60
Music	12	6.57	1.125	4	7.82
Art	12	6.57	1.125	4	11.19
Opening Exercises	8	17.70	1.25	5	7.29
Physical Education	8	32.28	2.25	5	12.72
Language Arts	8	53.10	3.75	5	26.67
Writing	8	17.70	1.25	5	9.75
Spelling	8	44.77	3.0	5	21.12
Reading	8	81.22	5.58	5	53.40
Mathematics	8	80.18	5.58	5	58.02
Social Studies	8	71.85	5.0	5	67.16
Science	8	48.94	3.5	5	37.97
Health	8	20.82	1.5	5	12.03
Music	8	26.03	2.0	5	13.31
Art	8	20.82	1.5	5	11.69
Opening Exercises	8	17.70	1.25	6	7.33

Table 28 (continued)

ESTIMATED DIRECT INSTRUCTIONAL EXPENDITURES AND CREDIT EQUIVALENTS PER UNIT BY SUBJECT AREA: COUNTY OF MOUNTAIN VIEW 1969-1970

Subject Area	Number of Pupils	Expenditure Per Pupil	Credit Equivalent	Grade Level	Average Expenditure
Physical Education	8	32.28	2.25	6	11.28
Language Arts	8	53.10	3.75	6	25.04
Writing	8	17.70	1.25	6	9.21
Reading	8	44.77	3.0	6	19.60
Spelling	8	81.22	5.58	6	43.05
Literature	8	80.18	5.58	6	48.83
Social Studies	8	71.85	5.0	6	49.49
Science	8	48.94	3.5	6	22.36
Health	8	20.82	1.5	6	14.36
Music	8	26.03	2.0	6	19.66
Art	8	20.82	1.5	6	13.00
Opening Exercises	23	14.43		7-8	14.43
Supervised Study	23	34.86		7-8	20.48
Mathematics	8	99.07	6.0	7	43.78
Physical Education	23	60.10	5.1	7-8	32.14
Language Arts	23	56.90	4.9	7-8	57.41
Literature	23	39.27	3.375	7-8	23.62
Mathematics	15	52.84	6.0	8	46.07
Social Studies	23	65.71	5.58	7-8	46.41
Science	23	58.50	5.0	7-8	38.40
Drama Opportunity Room	53	31.54	3.0	7-9	
Home Economics Level 1	12	79.65			

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